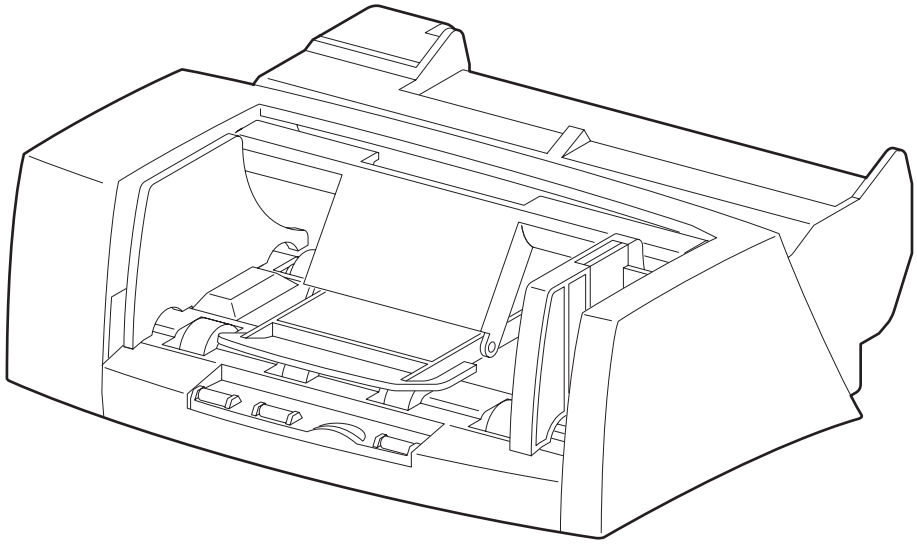
# HAKUBA
# 26PPM Laser Printer Optional Equipment

# Envelope Feeder Technical Manual



EV001FA

Version 1.0

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# About This Manual

This manual contains technical and service information for the optional Envelope Feeder for the HAKUBA 26ppm Laser Printer. The information is based on and validated using the basic model printer and Envelope Feeder. Expect some minor discrepancies in physical appearance, hardware count, and electrical readings due to engineering modifications and manufacturing changes during the life of the product.

This manual serves as both a technical reference manual and as a guideline for OEM clients who wish to prepare their own service manual. Other uses are prohibited.

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## Symbols Used in This Manual

*A Note indicates an operating or maintenance procedure, practice, or condition that is necessary to accomplish a task efficiently.*

**A Caution indicates an operating or maintenance procedure, practice, or condition that, if not strictly observed, could result in damage to, or destruction of, equipment.**

***A Warning indicates an operating or maintenance procedure, practice, or condition that, it not strictly observed, could result in injury or loss of life.***

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## Section 2: The Fault Isolation Procedure (FIP) Flowchart Contents

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# Section 2: The FIP Flowchart

## General Notes on Using FIPs

1. FIPs assume there is no malfunction in the printer controller. Therefore, we suggest that you identify the soundness of printer controller before entering the FIPs (refer to Section 2. FIP Flowchart).

   If you are unable to fix a problem using the FIPs, we recommend that you replace the printer controller.

2. FIPs frequently use new or “known good” components as troubleshooting tools. We recommend you carry a spare CRU, PWBA HKB26 MCU, PWB ESS, and PWBA HKB PS.

3. Unless indicated otherwise, the instruction “SWITCH ON main power” means that you switch ON printer power and let the printer proceed through power-on diagnostics and warm-up until it is on-line and ready to print.

4. Unless indicated otherwise, you should inspect and confirm the status of these components listed under the title of "SUSPECT COMPONENTS" at the first part of each FIP.

   The inspection items are:

   Installed properly?

   Not damaged or deformed?

   Not contaminated with foreign material?

   If any of the troubles above exist, you should correct, clean, or replace with a new component.

5. If you cannot isolate the problem using the FIPs, replace each of the components listed under the title of "SUSPECT COMPONENTS" at the head of each FIP, one at a time, until the problem disappears.

6. Conventions used to represent connectors:

   P/J XX means Plug and its corresponding Jack are connected.

   PXX means Plug is disconnected. (Unless this plug is soldered to PWB).

   JXX means Jack is disconnected. (Unless this jack is soldered to PWB).

7. When you are instructed to take a voltage reading between “P/J A-B and P/J X-Y”, place the red probe (+) of your meter on pin B of P/J A, and place the black probe (-) of your meter on pin Y of P/J X.

8. When you are instructed to take a voltage readings between “P/J X and P/J Y” (without specified pin numbers), check all voltage carrying pins. Refer to the Wiring Diagrams for signals and pin numbers.

9. Plug numbers are indicated on the circuit board. The pin numbers are not indicated fully on the board but only those located at both ends. In case there are 8 pins in a plug, you can find a figure of 1 (or A) at one end and 8 or (H) at the other end. The other number pins, such as 6, is found counting from one end.

10. When you are instructed to take voltage reading, the black probe (-) is generally connected to a pin that is either RTN (Return), SG (Signal Ground) or FG (Frame Ground) in place of any SG pin or test point.

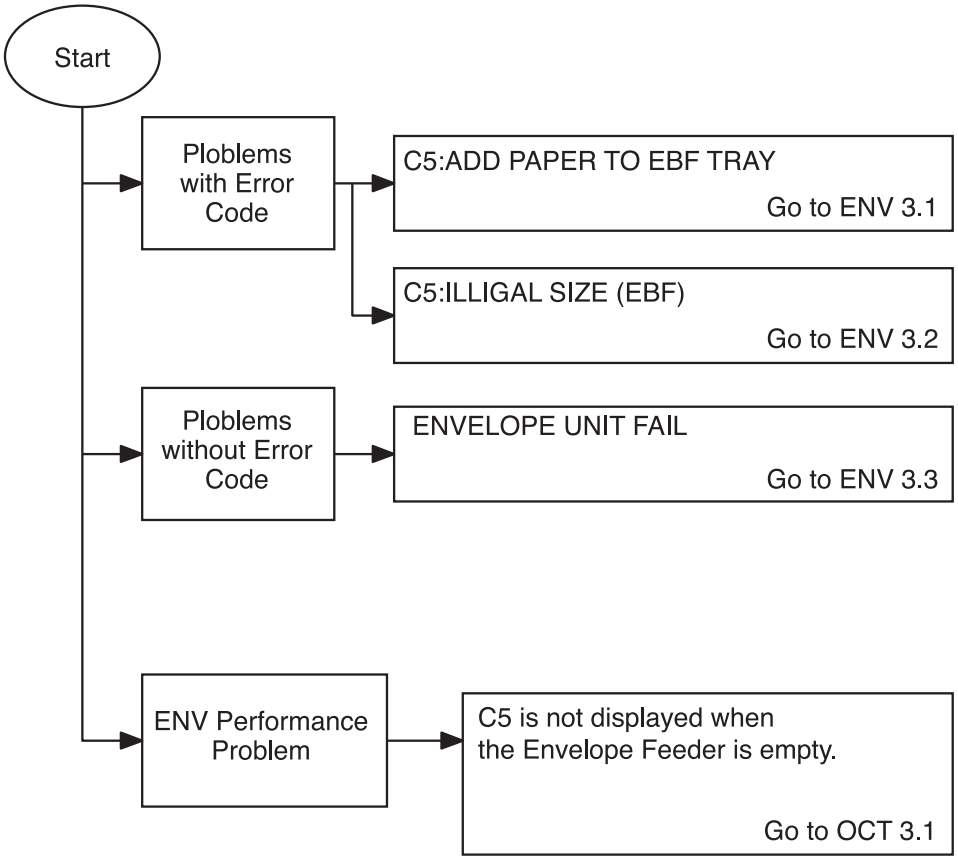
11. Unless an FIP instructs you otherwise, make sure the printer is switched ON, the CRU and the Paper Cassette are installed, and the Cover Rear is closed (Interlock Switch is actuated) before measuring voltages.

12. **All voltage values given in the FIPs are approximate values. Actual measured voltages may vary more than 25% from the values stated in the FIPs. The main purpose of most voltage readings taken in the FIPs is to determine whether or not a component is receiving the correct HIGH voltage value from the power supply, and if gating (a voltage drop) is occurring during component actuation. Gating signals may be nothing more than a pulse, resulting in a momentary drop in voltage that may be difficult or impossible read on the average multimeter.**

13. FIPs may instruct you to remove or replace a component. Refer to Section 10 Removal and Replacement Procedures for information on how to remove and reinstall a component.
14. When a FIP instructs you to replace a component, and that component is part of a larger assembly, you should replace the entire assembly.

## Section 2: The FIP Flowchart

### FIP Flowchart


Start
Ploblems with Error Code
C5:ADD PAPER TO EBF TRAY
Go to ENV 3.1
C5:ILLIGAL SIZE (EBF)
Go to ENV 3.2
Ploblems without Error Code
ENVELOPE UNIT FAIL
Go to ENV 3.3
ENV Performance Problem
C5 is not displayed when the Envelope Feeder is empty.
Go to OCT 3.1

envelope fip2001FA

## Section 3: Level 1 FIPs: Error Codes Contents

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# 3. Level 1 FIPs: Error Codes

The FIP Flowchart should have directed you to this section.

**Before entering the Error Code FIPs, make sure:**

1. Is the printer plugged into a recommended AC wall outlet?
2. Is the AC power provided at the wall outlet within recommended specifications?
3. Is the AC power cord connected to the printer.
4. Is the AC power cord in good condition; not frayed or broken?
5. Is the printer properly grounded through the AC wall outlet?
6. Is the printer located in an area where the temperature and humidity are moderate and stable?
7. Is the printer located in an area that is free of dust?
8. Is the printer located in an area away from water outlets, steamers, electric heaters, volatile gases, or open flames?
9. Is the printer shielded from the direct rays of the sun?
10. Does the printer have recommended space around all sides for proper ventilation?
11. Is the printer sitting on a level and stable surface?
12. Is recommended paper stock being used in the printer?
13. Does the customer use the printer as instructed in the HAKUBA User Manual?
14. Are consumables, such as the CRU, replaced at recommended intervals?

## HAKUBA Error Codes

| Code<br>--<br>Message | Cause | Results<br>---<br>How to Clear the Code<br>(If you cannot clear the code, go to the appropriate error code FIP, or to the option service manual) |
|---|---|---|
| **C5**<br>--<br>C5: ADD PAPER TO EBF TRAY | There is a problem with the Envelope Feeder.<br>1. The Envelope Feeder is out of paper. | Motor Assy Main, Laser Scanner, and Fuser Assy controls stop at end of print cycle.<br>---<br>Add envelopes. |
| **C5**<br>--<br>C5: ILLEGAL SIZE (EBF) | There is a problem with the Envelope Feeder or the PWBA HKB26 MCU.<br>1. The illegal size envelopes are set on the Envelope Feeder. | Motor Assy Main, Laser Scanner, and Fuser Assy controls stop at end of print cycle.<br>---<br>Replace the proper size envelopes. |
| --<br>ENVELOPE UNIT FAIL | There is a problem with the Envelope Feeder or the PWBA HKB26 MCU.<br>1. The Envelope Feeder is removed during the Envelope Mode is selected. | Motor Assy Main, Laser Scanner, and Fuser Assy controls stop at end of print cycle.<br>---<br>Re-install the Envelope Feeder correctly. |

## 3.1 C5: ADD PAPER TO EBF TRAY

There is a problem the Envelope Feeder.

| Step | Actions and Questions | Yes | No |
|---|---|---|---|
| 1 | **INITIAL ANALYSIS**<br>Inspect the following components.<br>• *Sensor Photo: No Paper* (PL12.2.22)<br>• *PWBA ENV* (PL12.2.33)<br>• *Harness Assy N/P* (PL12.2.34)<br>• *Harness Assy Main* (PL12.2.31)<br>• *Connector Assy ENV* (PL4.1.27)<br>• *PWBA Conn* (PL10.1.11)<br>• *Harness Assy Conn* (J23-J231) (PL10.1.10)<br>• *PWBA HKB26 MCU* (PL10.1.17)<br>**Are they compatible with your printer version, correctly** | Go to step 2. | Replace the problem components. |
| 2 | ***SENSOR PHOTO: NO PAPER* (PL12.2.22) ANALYSIS**<br>1. Use SENSOR/SWITCH CHECK to check the *Sensor Photo: ENV* by the manual operation of the *Actuator N/P Envelope* (PL12.2.21).<br>**Does the SENSOR CHECK NUMBER on the screen increment by the manual operation of the *Actuator*?** | Replace the *PWBA HKB26 MCU* (RRP10.1.7). | Go to step 3. |
| 3 | ***SENSOR PHOTO: NO PAPER* (PL12.2.22) ANALYSIS**<br>1. Check the voltage between J415-3 and J415-2.<br>**Is there 3.3VDC between J415-3 and J415-2?** | Go to step 4. | Go to step 8. |
| 4 | ***HARNESS ASSY N/P* (PL12.2.34) ANALYSIS**<br>1. Check the continuity between J415-1 and J414-3.<br>**Is there the continuity between J415-1 and J414-3?** | Go to step 5. | Replace the *Harness Assy N/P*. |
| 5 | ***HARNESS ASSY MAIN* (PL12.2.31) ANALYSIS**<br>1. Check the continuity between J411-3 and J418-4.<br>**Is there the continuity between J411-3 and J418-4?** | Go to step 6. | Replace the *Harness Assy Main*. |

## 3.1 C5: ADD PAPER TO EBF TRAY continued

| Step | Actions and Questions | Yes | No |
|---|---|---|---|
| **6** | ***CONNECTOR ASSY ENV* (PL4.1.27) ANALYSIS**<br>1. Check the continuity respectively between the both ends of the *Connector Assy ENV*.<br>**Are there the continuity between all the both ends of the *Connector Assy ENV*?** | Go to step 7. | Replace the *Connector Assy ENV*. |
| **7** | ***HARNESS ASSY CONN (J23-J231)* (PL10.1.10) ANALYSIS**<br>1. Check the continuity between J231-14 and J23-3.<br>**Is there the continuity between J231-14 and J23-3?** | Replace the *PWBA HKB26 MCU* (RRP10.1.7) | Replace the *Harness Assy Conn (J23-J231)*. |
| **8** | ***HARNESS ASSY CONN (J23-J231)* (PL10.1.10) ANALYSIS**<br>1. Check the continuity between J231-15 and J23-2.<br>**Is there the continuity between J231-15 and J23-2?** | Go to step 9. | Replace the *Harness Assy Conn (J23-J231)*. |
| **9** | ***PWBA ENV* (PL12.2.33) ANALYSIS**<br>1. Check the continuity between P414-1 and P411-5.<br>**Is there the continuity between P414-1 and P411-5?** | Go to step10. | Replace the *PWBA ENV*. |
| **10** | ***PWBA CONN* (PL10.1.11) ANALYSIS**<br>1. Check the continuity between P41-3 and P231-15.<br>**Is there the continuity between P41-3 and P231-15?** | Go to the Base Engine FIPs 6.1 PWBA HKB PS Failure (+3.3VDC). | Replace the *PWBA Conn* (RRP10.1.5). |

## 3.2 C5: ILLEGAL SIZE (EBF)

There is a problem with the paper size or the PWBA HKB26 MCU.

| Step | Actions and Questions | Yes | No |
|---|---|---|---|
| 1 | **INITIAL ANALYSIS**<br>Inspect the following components.<br>• *Sensor Assy Exit ENV* (PL12.1.23)<br>• *PWBA ENV* (PL12.2.33)<br>• *Harness Assy Sensor* (PL12.1.22)<br>• *Harness Assy Main* (PL12.2.31)<br>• *Connector Assy ENV* (PL4.1.27)<br>• *PWBA Conn* (PL10.1.11)<br>• *Harness Assy Conn* (J23-J231) (PL10.1.10)<br>• *PWBA HKB26 MCU* (PL10.1.17)<br>**Are they compatible with your printer version, correctly** | Go to step 2. | Replace the problem components. |
| 2 | ***SENSOR ASSY EXIT ENV* (PL12.1.23) ANALYSIS**<br>1. Use SENSOR/SWITCH CHECK to check the *Sensor Assy Exit ENV* by the manual operation of the *Actuator* of the *Sensor Assy Exit ENV*.<br>**Does the SENSOR CHECK NUMBER on the screen increment by the manual operation of the *Actuator*?** | Replace the *PWBA HKB26 MCU* (RRP10.1.7). | Go to step 3 |
| 3 | ***SENSOR ASSY EXIT ENV* (PL12.1.23) ANALYSIS**<br>1. Check the voltage between J417-3 and J417-2.<br>**Is there 3.3VDC between J417-3 and J417-2?** | Go to step 4. | Go to step 8. |
| 4 | ***HARNESS ASSY SENSOR* (PL12.1.22) ANALYSIS**<br>1. Check the continuity between J417-1 and J412-3.<br>**Is there the continuity between J417-1 and J412-3?** | Go to step 5. | Replace the *Harness Assy Sensor*. |
| 5 | ***HARNESS ASSY MAIN* (PL12.2.31) ANALYSIS**<br>1. Check the continuity between J411-2 and J418-3.<br>**Is there the continuity between J411-2 and J418-3?** | Go to step 6. | Replace the *Harness Assy Main*. |

## 3.2 C5: ILLEGAL SIZE (EBF) continued

| Step | Actions and Questions | Yes | No |
|---|---|---|---|
| **6** | ***CONNECTOR ASSY ENV* (PL4.1.27) ANALYSIS**<br>1. Check the continuity respectively between the both ends of the *Connector Assy ENV*.<br>**Are there the continuity between all the both ends of the *Connector Assy ENV*?** | Go to step 7. | Replace the *Connector Assy ENV*. |
| **7** | ***HARNESS ASSY CONN (J23-J231)* (PL10.1.10) ANALYSIS**<br>1. Check the continuity between J231-13 and J23-4.<br>**Is there the continuity between J231-13 and J23-4?** | Replace the *PWBA HKB26 MCU* (RRP10.1.7) | Replace the *Harness Assy Conn (J23-J231)*. |
| **8** | ***HARNESS ASSY CONN (J23-J231)* (PL10.1.10) ANALYSIS**<br>1. Check the continuity between J231-15 and J23-2.<br>**Is there the continuity between J231-15 and J23-2?** | Go to step 9. | Replace the *Harness Assy Conn (J23-J231)*. |
| **9** | ***PWBA ENV* (PL12.2.33) ANALYSIS**<br>1. Check the continuity between P412-1 and P411-5.<br>**Is there the continuity between P412-1 and P411-5?** | Go to step10. | Replace the *PWBA ENV*. |
| **10** | ***PWBA CONN* (PL10.1.11) ANALYSIS**<br>1. Check the continuity between P41-3 and P231-15.<br>**Is there the continuity between P41-3 and P231-15?** | Go to the Base Engine FIPs 6.1 PWBA HKB PS Failure (+3.3VDC). | Replace the *PWBA Conn* (RRP10.1.5). |

## 3.3 ENVELOPE UNIT FAIL

There is a problem with the PWBA ENV or the PWBA HKB26 MCU.

| Step | Actions and Questions | Yes | No |
|---|---|---|---|
| 1 | **INITIAL ANALYSIS**<br>Inspect the following components.<br>• *PWBA ENV* (PL12.2.33)<br>• *Harness Assy Sensor* (PL12.1.22)<br>• *Harness Assy Main* (PL12.2.31)<br>• *Connector Assy ENV* (PL4.1.27)<br>• *PWBA Conn* (PL10.1.11)<br>• *Harness Assy Conn* (J23-J231) (PL10.1.10)<br>• *PWBA HKB26 MCU* (PL10.1.17)<br>**Are they compatible with your printer version, correctly installed, not damaged, deformed, or contaminated?** | Go to step 2. | Replace the problem components. |
| 2 | 1. Re-install the *Envelope Feeder*.<br>**Does the error still appear?** | Replace the *PWBA ENV* and if the error still appears, Go to step 3. | Problem is solved. |
| 3 | 1. Replace the *PWBA Conn* (PL10.1.11).<br>**Does the error still appear?** | Replace the *PWBA HKB26 MCU* (RRP10.1.7). | Problem is solved. |

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# Section 10 - Removal and Replacement Procedures

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# Section 10 - Removal and Replacement Procedures (RRPs)

This section contains the removal and replacement procedure for main parts of the Envelope Feeder

## Preparation

1. Switch OFF the main power.
2. Disconnect the AC power cord from the wall outlet, then start work.
3. Remove the EP cartridge and store it at a dark and safety place free from direct sunlight.
4. In performing work for the FUSER ASSY periphery, wait until the FUSER ASSY and its periphery have become cool enough.
5. Disconnect all interface cables from the rear panel of printer.
6. In performing work, to eliminate static electricity in your body, wear wristbands, etc. to take grounding properly.

## Work Notes

Many kinds of screws are used, and do not confuse where they are used. Using wrong screws could cause the tapped holes to be broken, or troubles to occur.

In performing work with parts that are managed as spare parts but its procedure is not given, make sure how the parts have been mounted before starting work.

Optional parts, as a rule, should be removed, but they may be left in the printer, on condition that they do not obstruct your work.

# Section 10 - Removal and Replacement Procedures continued

## Notations in the RRP text

¥The printer orientation expressed in the procedure is defined as follows.

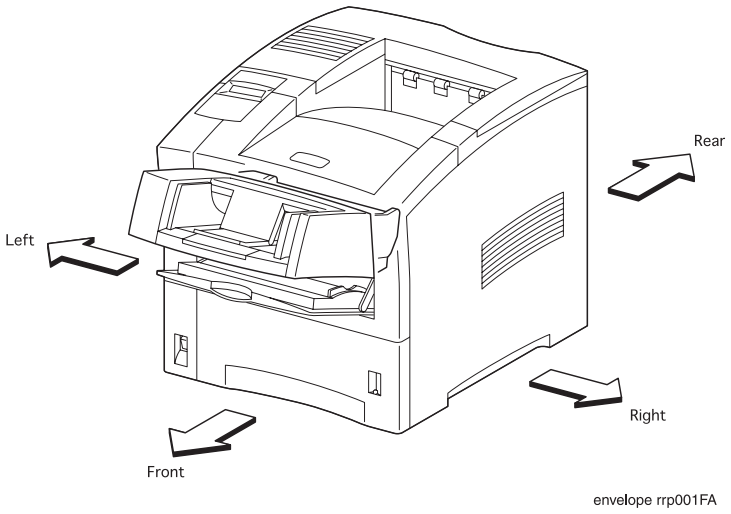


Figure 1. Definition of Printer Orientation

¥RRP X.Y.Z「AAAAA」at the top of procedure implies that the part name to be removed/replaced is「AAAAA」.

¥「(PLX.Y.Z)」following part name in the procedure implies that this part corresponds to the plate (PL)「X.Y」, item「Z」in Section 12 Parts List. Therefore, the shape and mounting position of the parts can be confirmed in Section 12 Parts Lists.

¥「(RRP X.Y.Z.)」in the text or at the end of text in the procedure implies that reference work procedure is given in「RRP X.Y.Z」.

¥The screws in the illustration imply that they should be loosened and removed using a cross-tip screw-driver, unless otherwise specified.

¥A black arrow in the illustration implies that the part should be moved in the arrow direction, and when numbers are assigned to black arrows, the parts should be moved in the order of given numbers.

¥For the location of connectors (P/J), refer to [Section 11 P/J Location].

# Section 10 - Removal and Replacement Procedures (RRPs) continued

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## RRP 12.1.1 Envelope Feeder Assy (PL12.1.1)

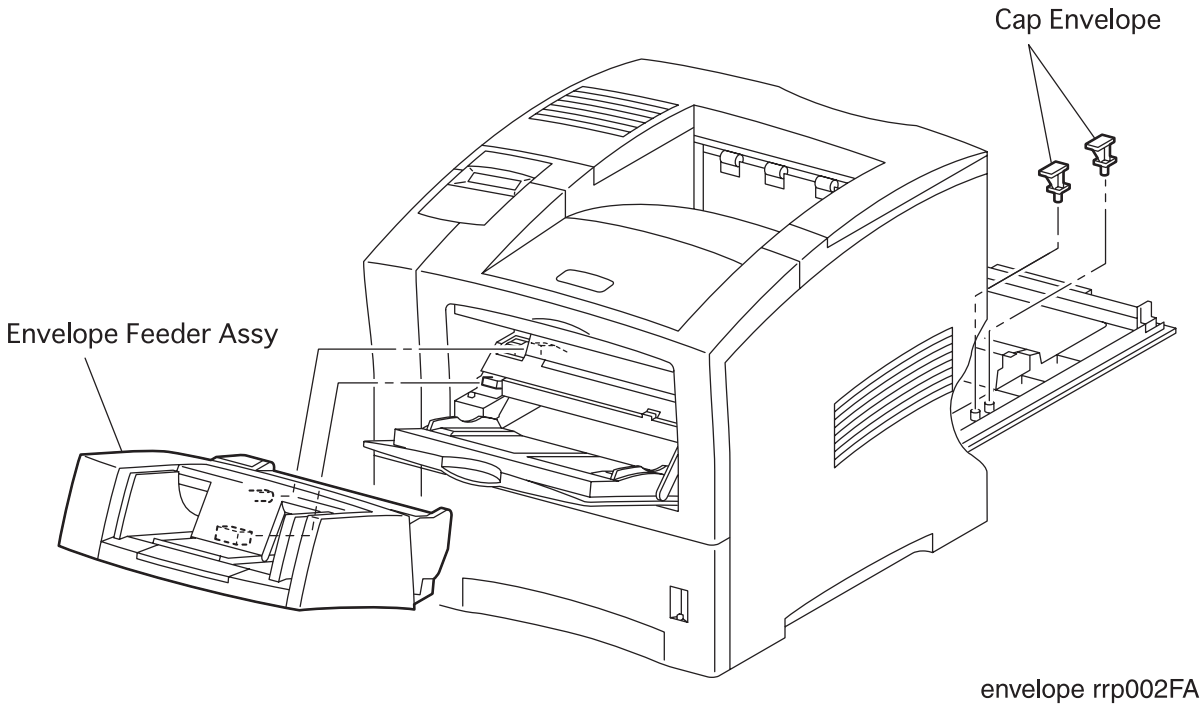


Figure 2. Envelope Feeder Assy Removal

# RRP 12.1.1 Envelope Feeder Assy (PL12.1.1) continued

### Removal

1. Pull out the Envelope Feeder Assy from the Base Machine.
2. Replace the ENV Gear Cover(PL1.1.21) to the Cover Front(PL1.1.10) of the Base Machine.(RRP1.1.11)
3. Open the Cover Assy Rear.
4. Remove the two Cap Envelopes from the two hole parts of the right side of Cover Assy Rear.
5. Replace the Cap Envelope to the Chute Assy Face Up(PL1.2.8).(RRP1.2.1)
6. Close the Cover Assy Rear.
7. Close the Tray Assy MBF(PL1.1.17).

### Replacement

1. Open the Tray Assy MBF(PL1.1.17).
2. Remove the ENV Gear Cover(PL1.1.21) from the Base Machine.(RRP1.1.11)
3. Adjust the Envelope Feeder Assy to the replacement position before replacing to the Base Machine.
4. Open the Cover Assy Rear.
5. Remove the Cap Envelope from the Chute Assy Face Up(PL1.2.8).(RRP1.2.1)
6. Replace the Cap Envelope to two hole parts of the right side of the Cover Assy Rear.
7. Close the Cover Assy Rear.

## RRP 12.1.2 Chute Top (PL12.1.2)

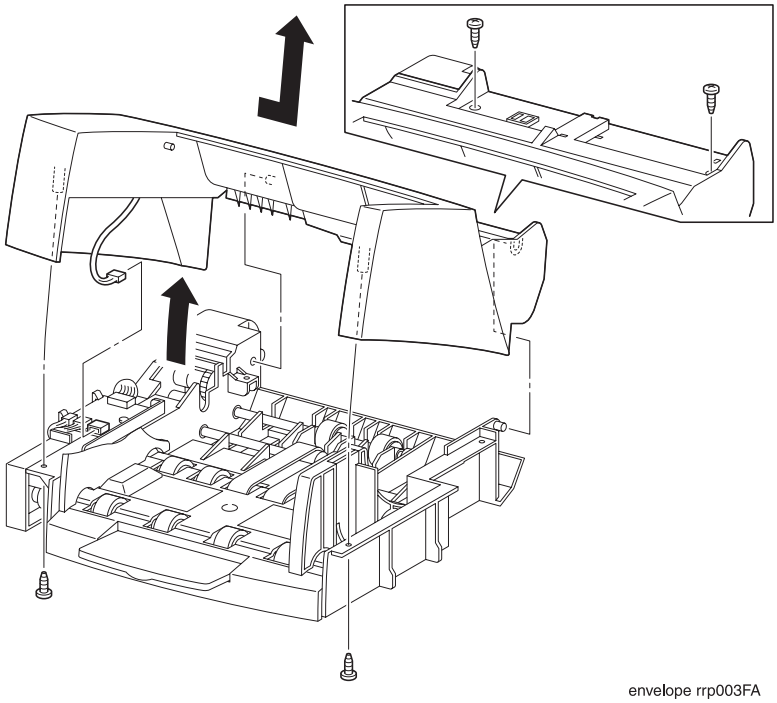


Figure 3. Chute Top Removal

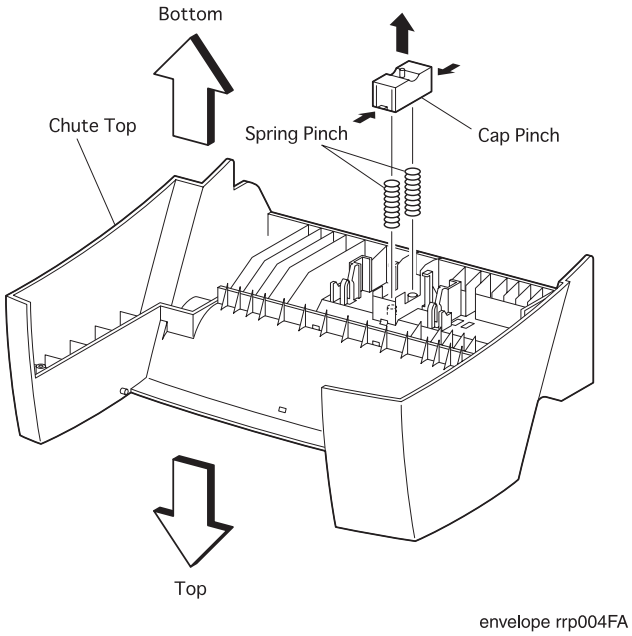


Figure 4. Chute Top Removal

# RRP 12.1.2 Chute Top (PL12.1.2) continued

### Removal

1. Remove the Envelope Feeder Assy (RRP 12.1.1).
2. Remove the Cover Bottom (RRP 12.1.5).
3. Remove the four screws securing the Chute Top to the Envelope Feeder Assy (PL12.1.1.)
4. Open the Chute Top from the Envelope Feeder Assy.
5. Unplug the connector (P/J412) from the PWBA ENV (PL12.2.33).
6. Shifting the Chute Top to the left, disengage it from the hole and shaft of the Envelope Feeder Assy.
7. Remove the Chute Top from Envelope Feeder Assy.
8. Remove the Sensor Assy Exit ENV (RRP 12.1.7).
9. Remove the Kit Roll Assy Retard (RRP 12.1.8).
10. Remove the Roll Pinch (RRP 12.1.3).
11. Remove the Cap Pinch after release of the two hooks of the Cap Pinch(PL12.1.28) from the Chute Top.
12. Remove the Spring Pinch(PL12.1.27) from the two studs of the Chute Top.

### Replacement

1. Replace the Spring Pinch(PL12.1.27) to the two studs of the Chute Top.
2. Adjust the Cap Pinch(PL12.1.28) to the replacement position of the Chute Top and fix it by two hooks.
3. Move the Roll Pinch (RRP 12.1.3).
4. Mount the Kit Roll Assy Retard (RRP 12.1.8).
5. Remove the Sensor Assy Exit ENV (RRP 12.1.7).
6. Insert the shaft and hole of Chute Top into the hole and shaft of the Envelope Feeder Assy (PL12.1.1).
7. Plug the connector (P/J412) to the PWBA ENV (PL12.2.33).
8. Close the Chute Top from Envelope Feeder Assy.
9. Secure the Chute Top to the Envelope Feeder Assy with two screws.
10. Mount the Cover Bottom (RRP 12.1.5).
11. Mount the Envelope Feeder Assy (RRP 12.1.1).

## RRP 12.1.3 Roll Pinch Exit (PL12.1.10)

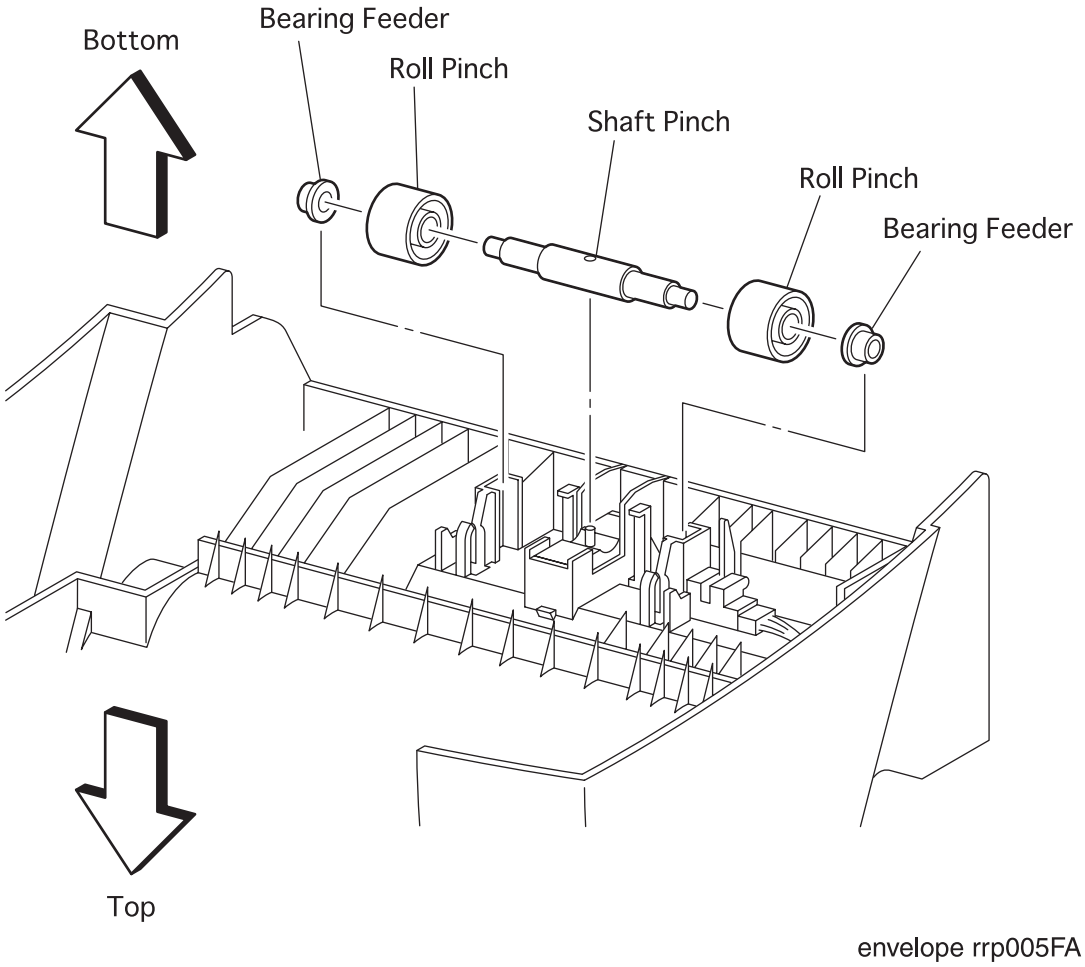


Figure 5. Roll Pinch Exit Removal

# RRP 12.1.3 Roll Pinch Exit (PL12.1.10) continued

### Removal

1. Remove the Envelope Feeder Assy (RRP 12.1.1).
2. Remove the Cover Bottom (RRP 12.1.5).
3. Remove the Chute Top (RRP 12.1.2)
4. Remove the Kit Roll Assy Retard (RRP 12.1.8).
5. Release the shaft part of right and left of Shaft Pinch(PL12.1.29) which fixed the bearings part of Chute Top(PL12.1.2) with Bearing Feeder(PL12.1.8) from the part of bearings of the Chute Top.
6. Remove the Shaft Pinch ,Bearing Feeder and Roll Pinch from the Chute Top.
7. Remove the Bearing Feeder from the shaft part of right and left of the Shaft Pinch.
8. Remove the Roll Pinch from the shaft part of right and left of the Shaft Pinch.

### Replacement

1. Replace the Roll Pinch to the shaft part of right and left of the Shaft Pinch.
2. Replace the Bearing Feeder to the shaft part of right and left of the Shaft Pinch.
3. Adjust the Bearing FeederA" Roll Pinch and Shaft Pinch to the replacement position of the bearings part of the Chute Top(PL12.1.2).
4. Fix the Bearing Feeder with the shaft part of right and left of the Shaft Pinch to the bearings part of the Chute Top.
5. Mount the Kit Roll Assy Retard (RRP 12.1.8).
6. Mount the Chute Top (RRP 12.1.2).
7. Mount the Cover Bottom (RRP 12.1.5).
8. Mount the Envelope Feeder Assy (RRP 12.1.1).

## RRP 12.1.4 Arm Weight (PL12.1.11)

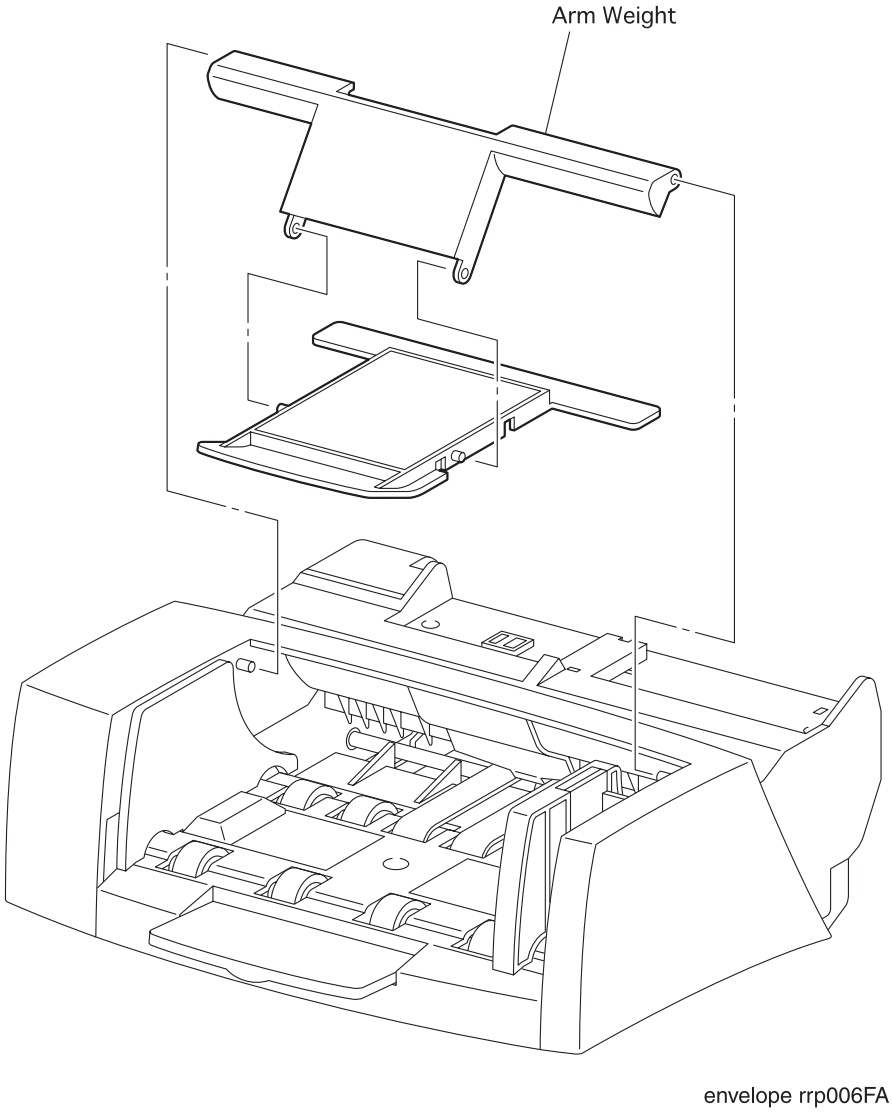


Figure 6. Arm Weight Removal

# RRP 12.1.4 Arm Weight (PL12.1.11) continued

### Removal

1. Remove the Envelope Feeder Assy (RRP 12.1.1).
2. Deflecting the Arm Weight, disengage the right bearing of Arm Weight from the right shaft of Envelope Feeder Assy (PL12.1.1).
3. Raising the right side of Arm Weight, remove the Arm Weight together with Holder Weight (PL12.1.12) from the Envelope Feeder Assy.
4. Deflecting the right bearing of Arm Weight, disengage from the right shaft of Cover Weight (PL12.1.24).
5. Pulling the right side of Cover Weight a little toward the front and shifting to the right, disengage from the left bearing of Arm Weight, then remove the Holder Weight.

### Replacement

1. Insert the left shaft of Cover Weight (PL12.1.24) into the left bearing of Arm Weight.
2. Deflecting the right bearing of Arm Weight, insert the right shaft of Cover Weight.
3. Insert the left shaft of Envelope Feeder Assy (PL12.1.1) into the left bearing of Arm Weight.
4. Deflecting the Arm Weight, insert the right shaft of Envelope Feeder Assy into the right bearing.
5. Mount the Envelope Feeder Assy (RRP 12.1.1).

## RRP 12.1.5 Cover Bottom (PL12.1.19)

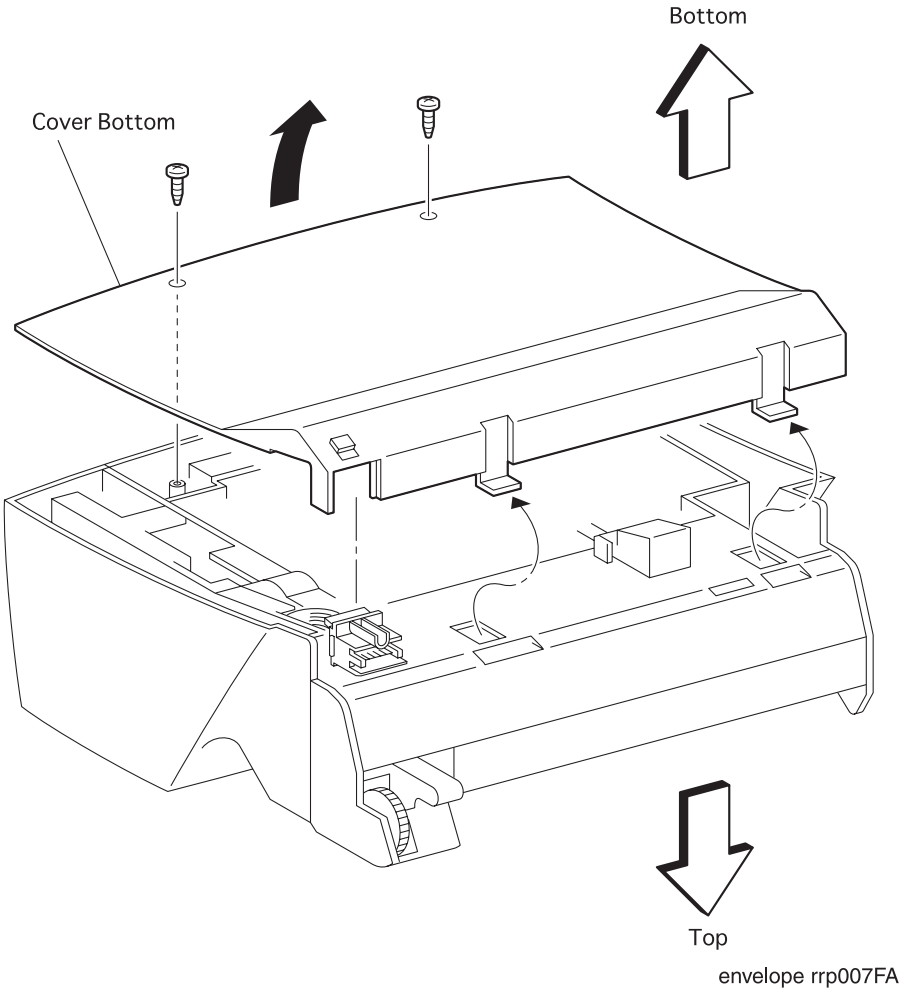


Figure 7. Cover Bottom Removal

# RRP 12.1.5 Cover Bottom (PL12.1.19) continued

### Removal

1. Remove the Envelope Feeder Assy (RRP 12.1.1).
2. Remove the two screws securing the Cover Bottom to the Envelope Feeder Assy.
3. Remove the cover from Envelope Feeder Assy.
4. Remove the Connector ENV (PL12.2.30) together with Harness Assy Main (PL12.2.31) from the Cover Bottom.

### Replacement

1. Aligning the position exactly, mount the Connector ENV (PL12.2.30) together with Harness Assy Main (PL12.2.31) on the Cover Bottom.
2. Engaging two hooks with two holes in the Envelope Feeder Assy (PL12.1.1), mount the Cover Bottom.
3. Secure the Cover bottom to the Envelope Feeder Assy with two screws.
4. Mount the Envelope Feeder Assy (RRP 12.1.1).

## RRP 12.1.6 Tray Extension (PL12.1.20)

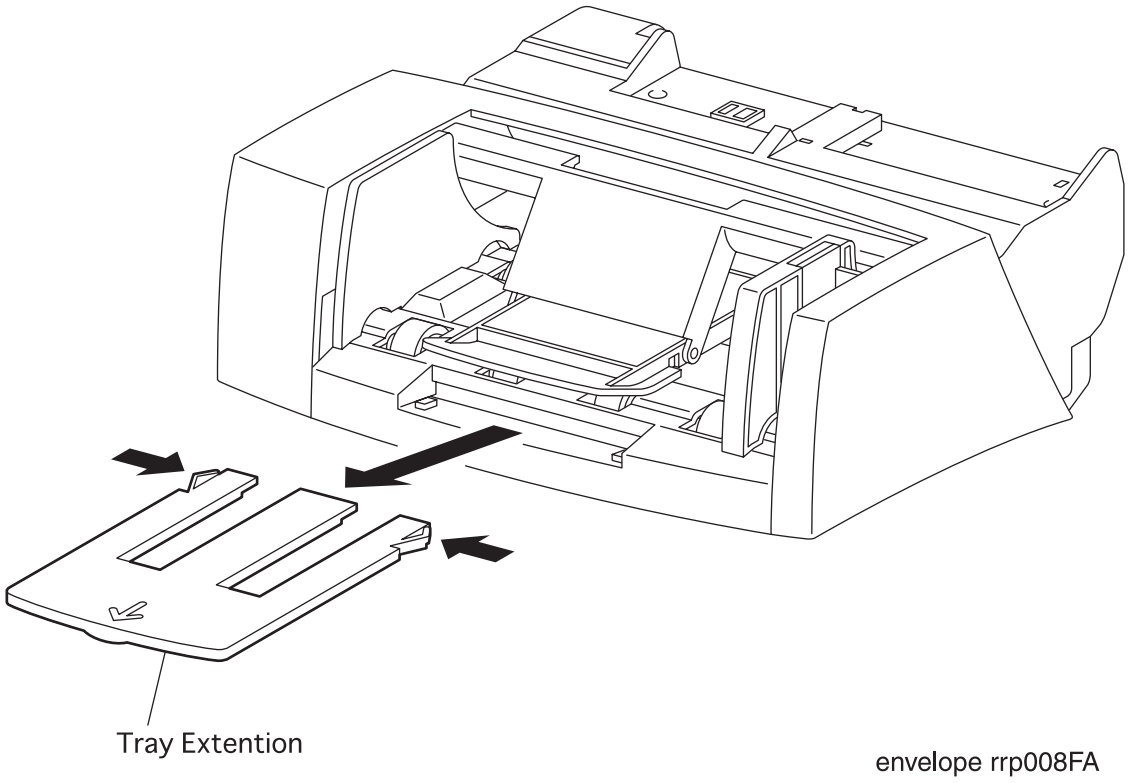


Figure 8. Tray Extention Removal

# RRP 12.1.6 Tray Extension (PL12.1.20) continued

### Removal

1. Remove the Envelope Feeder Assy (RRP 12.1.1).
2. Remove the Cover Bottom (RRP 12.1.5).
3. Draw the Tray Extension from the Envelope Feeder Assy (PL12.1.1) in diagonal upward direction.

### Replacement

1. Aligning the position exactly, insert the Tray Extension into the Envelope Feeder Assy (PL12.1.1).
2. Mount the Cover Bottom (RRP 12.1.5).
3. Mount the Envelope Feeder Assy (RRP 12.1.1).

## RRP 12.1.7 Sensor Assy Exit ENV (PL12.1.23)

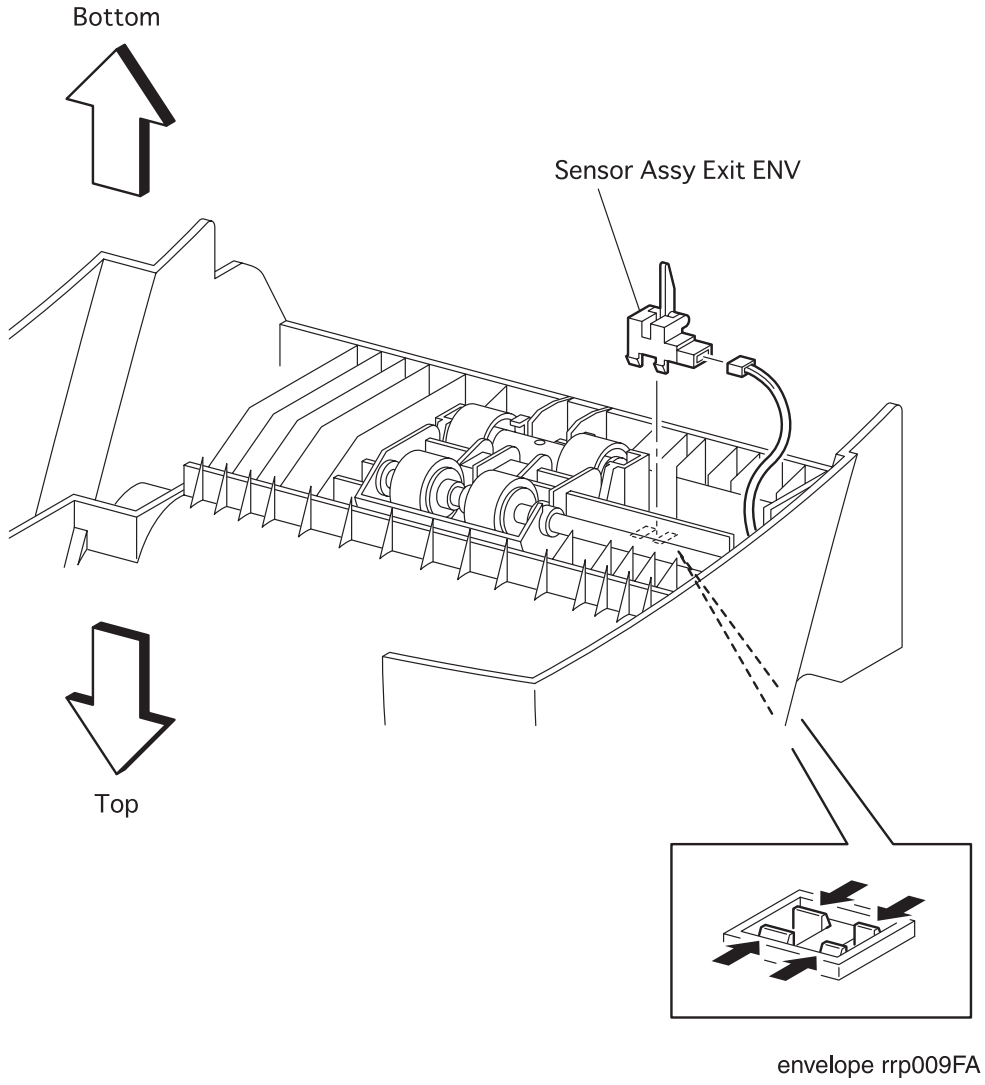


Figure 9. Sensor Assy Exit ENV Removal

# RRP 12.1.7 Sensor Assy Exit ENV (PL12.1.23) continued

### Removal

1. Remove the Envelope Feeder Assy (RRP 12.1.1).
2. Remove the Cover Bottom (RRP 12.1.5).
3. Remove the Chute Top (RRP 12.1.2)
4. Disengage two hooks that secure the Sensor Assy Exit ENV to the Chute Top (PL12.1.2), and remove the Sensor Assy Exit ENV.
5. Unplug the connector (P/J417) from the Sensor Assy Exit ENV.

### Replacement

1. Plug the connector (P/J417) in the Sensor Assy Exit ENV.
2. Mount the Sensor Assy Exit ENV on the Chute Top (PL12.1.2), and secure it with two hooks.
3. Mount the Chute Top (RRP 12.1.2).
4. Mount the Cover Bottom (RRP 12.1.5).
5. Mount the Envelope Feeder Assy (RRP 12.1.1).

## RRP 12.1.8 Kit Roll Assy Retard (PL12.1.99)

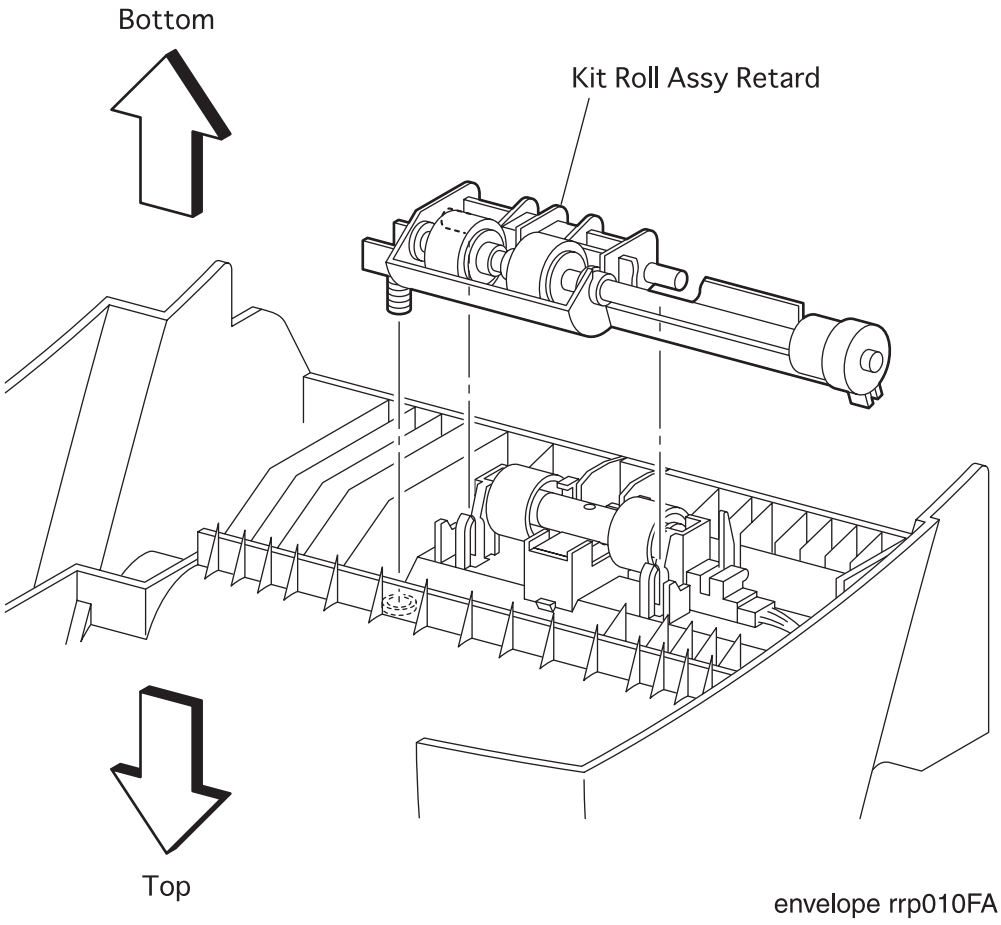


Figure 10. Kit Roll Assy Retard Removal

# RRP 12.1.8 Kit Roll Assy Retard (PL12.1.99) continued

### Removal

1. Remove the Envelope Feeder Assy (RRP 12.1.1).
2. Remove the Cover Bottom (RRP 12.1.5).
3. Remove the Chute Top (RRP 12.1.2).

In the following steps, take care not to drop, then lose the Spring Retard (PL12.1.3).

4. Disengage the shaft of Kit Roll Assy Retard from the bearing of Chute Top (PL12.1.2), and remove the Kit Roll Assy Retard.

### Replacement

In the following steps, take care not to drop, then lose the Spring Retard (PL12.1.3).

1. Mount the Kit Roll Assy Retard on the Chute Top (PL12.1.2), and secure the shaft of Kit Roll Assy Retard to the bearing of Chute Top.
2. Mount the Chute Top (RRP 12.1.2).
3. Mount the Cover Bottom (RRP 12.1.5).
4. Mount the Envelope Feeder Assy (RRP 12.1.1).

## RRP 12.2.1 Cover Gear (PL12.2.2)

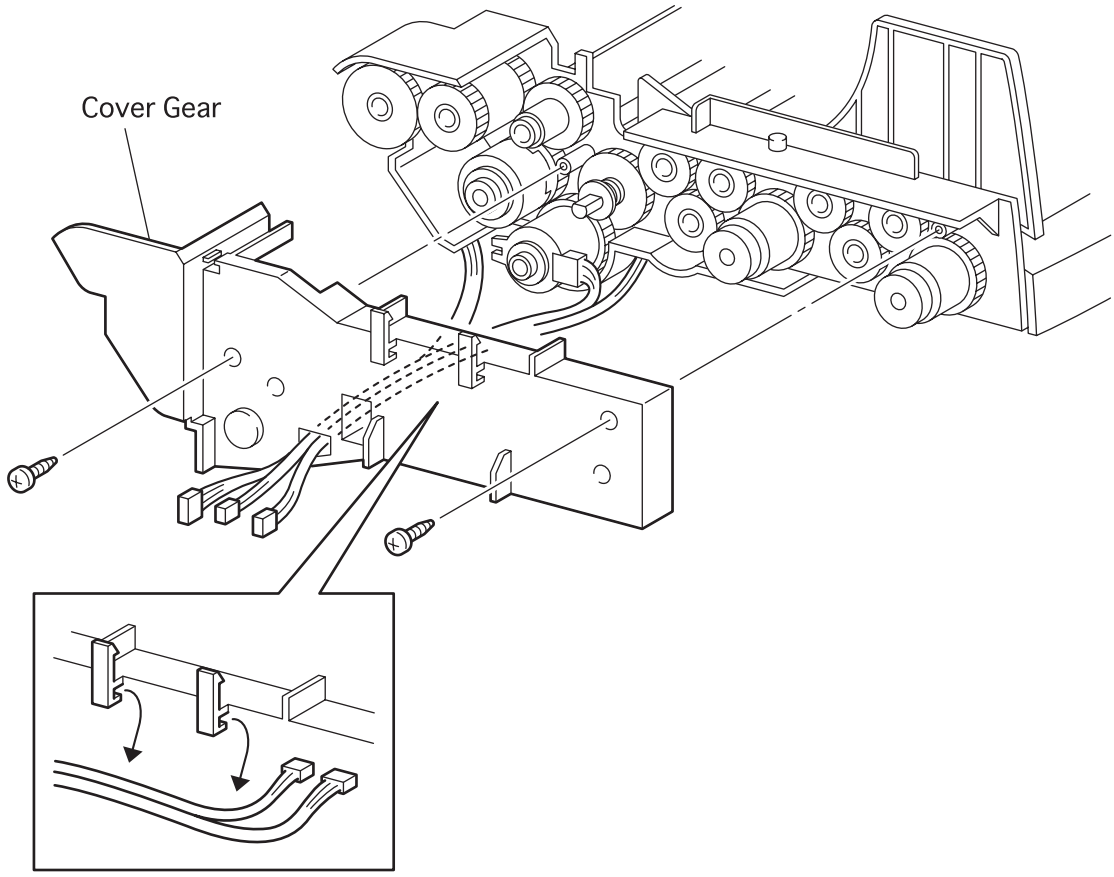


Figure 11. Cover Gear Removal

# RRP 12.2.1 Cover Gear (PL12.2.2) continued

### Removal

1. Remove the Envelope Feeder Assy (RRP 12.1.1).
2. Remove the Cover Bottom (RRP 12.1.5).
3. Remove the Chute Top (RRP 12.1.2)
4. Remove the PWBA ENV (RRP 12.2.14).

In the following steps, the gear, clutch, etc. will easily drop when the cover is removed. Take care not to lose them.

5. Remove two screws securing the Cover Gear to the Envelope Feeder Assy (PL12.1.1).
6. Detach the Cover Gear together with the harness from the Envelope Feeder Assy.
7. Unhook the following harnesses from the Cover Gear.
   *Harness Assy Clutch (PL12.2.32) connected to the Clutch ELECT 29 (PL12.2.11)
   *Harness Assy N/P (PL12.2.34) connected to the Sensor Photo: No Paper (PL12.2.22)
8. Draw the following harnesses from the hole in the Cover Gear.
   *Harness Assy Main (PL12.2.31) connected to the Connector ENV (PL12.2.30)
   *Harness Assy Clutch connected to the Clutch ELEC 29
   *Harness Assy N/P connected to the Sensor Photo: No Paper

### Replacement

1. Let the following harnesses through the hole of Cover Gear.
   *Harness Assy Main (PL12.2.31) connected to the Connector ENV (PL12.2.30)
   *Harness Assy Clutch (PL12.2.32) connected to the Clutch ELECT 29 (PL12.2.11)
   *Harness Assy N/P (PL12.2.34) connected to the Sensor Photo: No Paper (PL12.2.22)
2. Hook the following harnesses to the Cover Gear.
   *Harness Assy Clutch connected to the Clutch ELEC 29
   *Harness Assy N/P connected to the Sensor Photo: No Paper
3. Align the Cover Gear with its mount position to the Envelope Feeder Assy (PL12.1.1).
4. Secure the Cover Gear to the Envelope Feeder Assy with two screws.
5. Mount the PWBA ENV (RRP 12.214).
6. Mount the Chute Top (RRP 12.1.2).
7. Mount the Cover Bottom (RRP 12.1.5).
8. Mount the Envelope Feeder Assy (RRP 12.1.1).

## RRP 12.2.2 Clutch ELEC 29 (PL12.2.11)

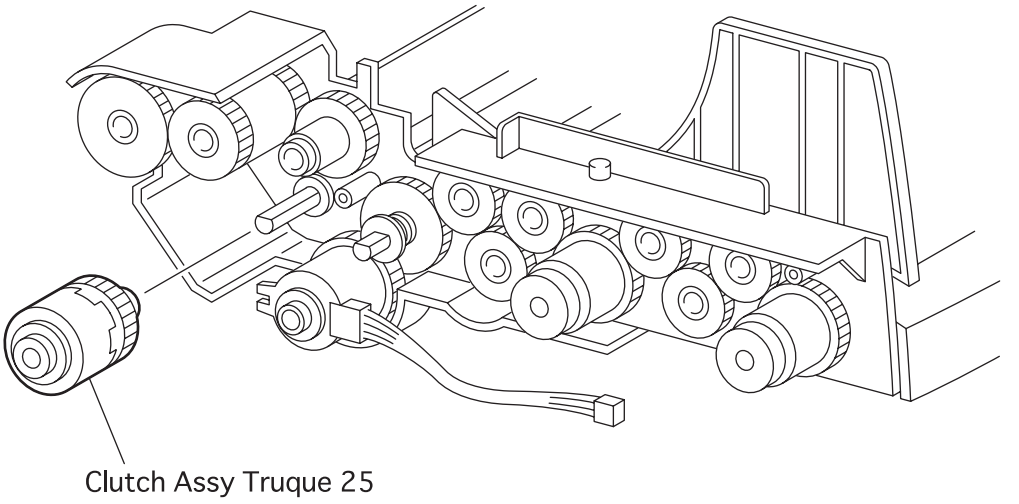


Figure 12. Clutch ELEC 29 Removal

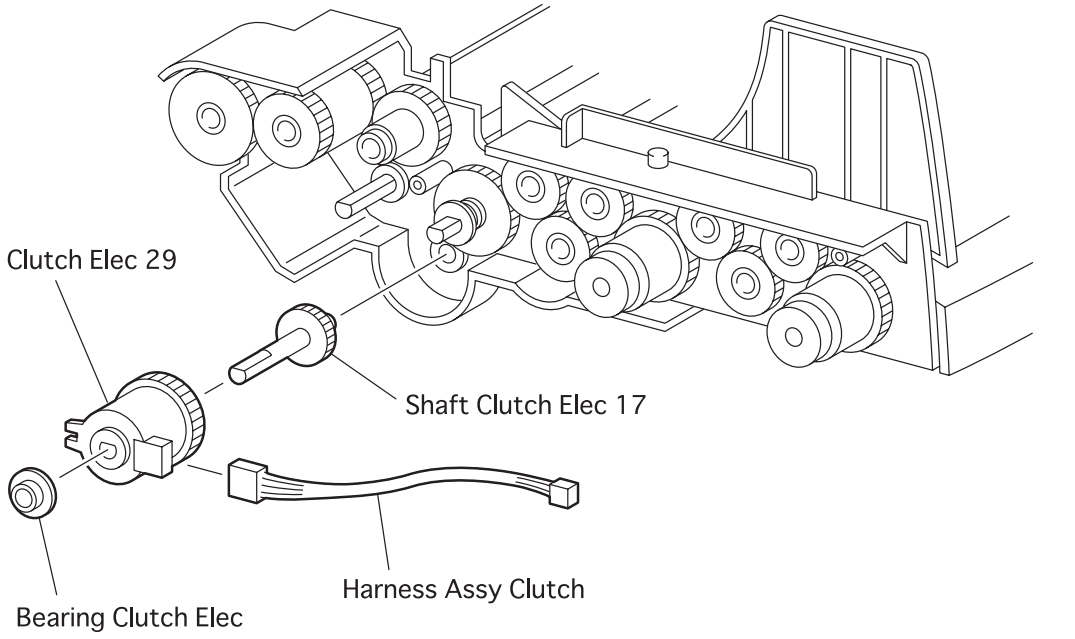


Figure 13. Clutch ELEC 29 Removal

# RRP 12.2.2 Clutch ELEC 29 (PL12.2.11) continued

### Removal

1. Remove the Envelope Feeder Assy (RRP 12.1.1).
2. Remove the Cover Bottom (RRP 12.1.5).
3. Remove the Chute Top (RRP 12.1.2).
4. Remove the PWBA ENV (RRP 12.2.14).
5. Remove the Cover Gear (RRP 12.2.1).
6. Draw the Clutch Assy Torque 25 (PL12.2.6) securing on the shaft of Roll Assy Trans (PL12.2.15).
7. Draw the Bearing Clutch ELEC (PL12.2.10) securing on the shaft Clutch ELEC17 (PL12.2.12) of the Envelope Feeder Assy (PL12.1.1).
8. Draw the Clutch ELEC 29 together with Harness Assy Clutch (PL12.1.32) securing on the shaft of Shaft Clutch ELEC 17 of the Envelope Feeder Assy.
9. Unplug the connector (P/J416) from the Clutch ELEC 29.

### Replacement

1. Plug the connector (P/J416) to the Clutch ELEC 29.
2. Mount the Clutch ELEC 29 on the shaft of Shaft Clutch ELEC 17 (PL 12.2.12)of the Envelope Feeder Assy (PL12.1.1).
3. Mount the Bearing Clutch ELEC (PL 12.2.12) on the shaft of Shaft Clutch ELEC 17 of the Envelope Feeder Assy.
4. Mount the Clutch Assy Torque 25 (PL12.2.6) on the shaft of Roll Assy Trans (PL12.2.15).
5. Mount the Cover Gear (RRP 12.2.1).
6. Mount the PWBA ENV (RRP 12.2.14).
7. Mount the Chute Top (RRP 12.1.2).
8. Mount the Cover Bottom (RRP 12.1.5).
9. Mount the Envelope Feeder Assy (RRP 12.1.1).

## RRP 12.2.3 Roll Assy Trans (PL12.2.15)

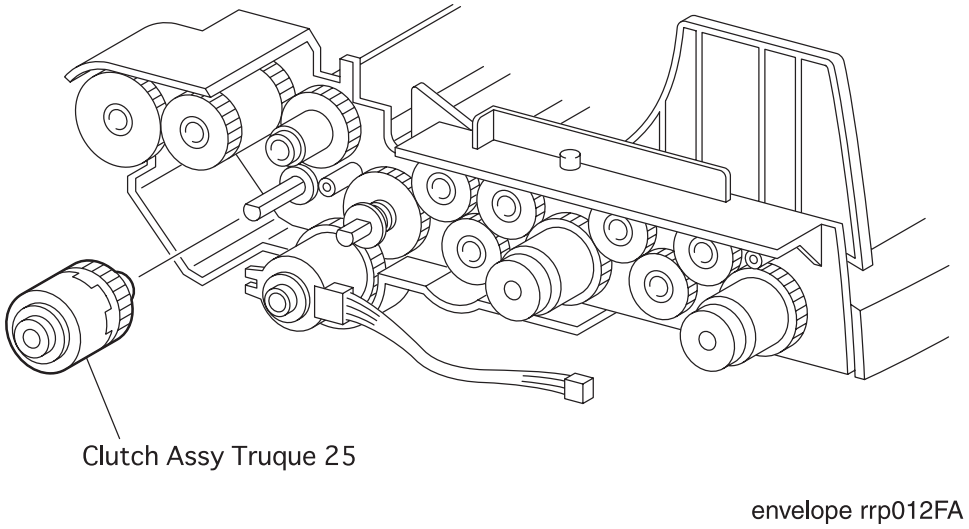


Figure 14. Roll Assy Trans Removal

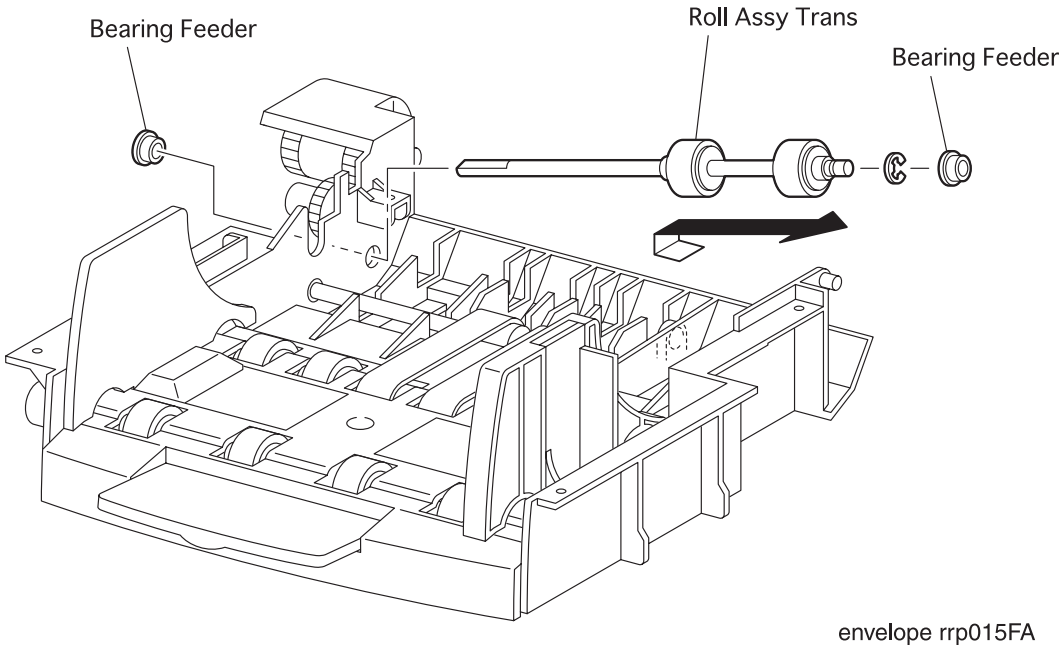


Figure 15. Roll Assy Trans Removal

# RRP 12.2.3 Roll Assy Trans (PL12.2.15) continued

### Removal

1. Remove the Envelope Feeder Assy (RRP 12.1.1).
2. Remove the Cover Bottom (RRP 12.1.5).
3. Remove the Chute Top (RRP 12.1.2).
4. Remove the PWBA ENV (RRP 12.2.14).
5. Remove the Cover Gear (RRP 12.2.1).
6. Draw the Clutch Assy Truque 25 (PL12.2.6) securing on the shat of Roll Assy Trans.
7. Remove the Bearing Feeder (PL12.2.7) that secures the left shaft of Roll Assy Trans to the left bearing of Envelope Feeder Assy (PL12.1.1).
8. Shifting the right shaft of Roll Assy Trans together with bearing Feeder to the left, release it from the right bearing of Envelope feeder Assy.
9. Raising the right shaft of Roll Assy Trans, draw the Roll Assy Trans together with Bearing Feeder from the Envelope Feeder Assy.
10. Remove the bearing Feeder from the right shaft of Roll Assy Trans.
11. Remove an E-ring from the right shaft of Roll Assy Trans.

### Replacement

1. Mount the E-ring to the right shaft of Roll Assy Trans.
2. Mount the Bearing Feeder (PL12.2.7) to the right shaft of Roll Assy Trans.
3. Insert the left shaft of Roll Assy Trans into the left bearing of Envelope Feeder Assy (PL12.1.1).
4. Insert the right shaft of Roll Assy Trans together with Bearing Feeder into the right bearing of Envelope Feeder Assy to secure.
5. Insert the Bearing Feeder into the left bearing of Envelope Feeder Assy to secure the left shaft of Roll Assy feed 2.
6. Mount the Clutch Assy Truque 25 (PL12.2.6) on the shaft of Roll Assy Trans.
7. Mount the Cover Gear (RRP 12.2.1).
8. Mount the PWBA ENV (RRP 12.2.14).
9. Mount the Chute Top (RRP 12.1.2).
10. Mount the Cover Bottom (RRP 12.1.5).
11. Mount the Envelope Feeder Assy (RRP 12.1.1).

## RRP 12.2.4 Roll Assy Bottom (PL12.2.17)

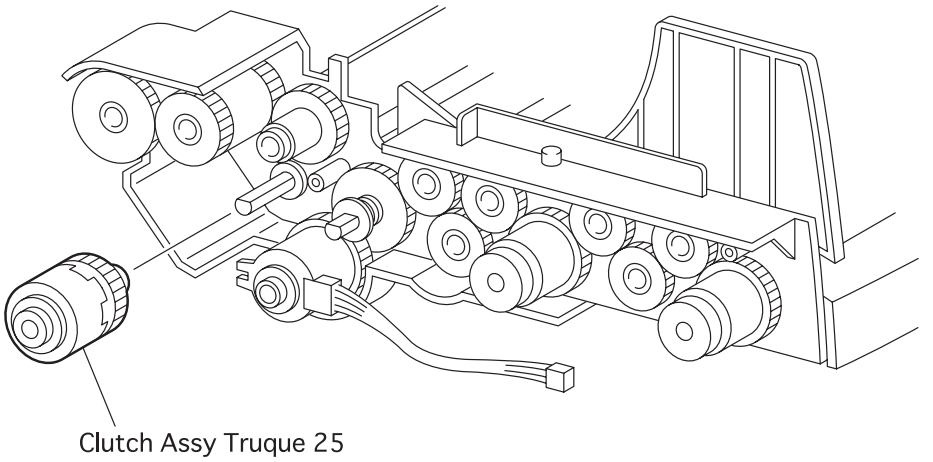


Figure 16. Roll Assy Bottom Removal

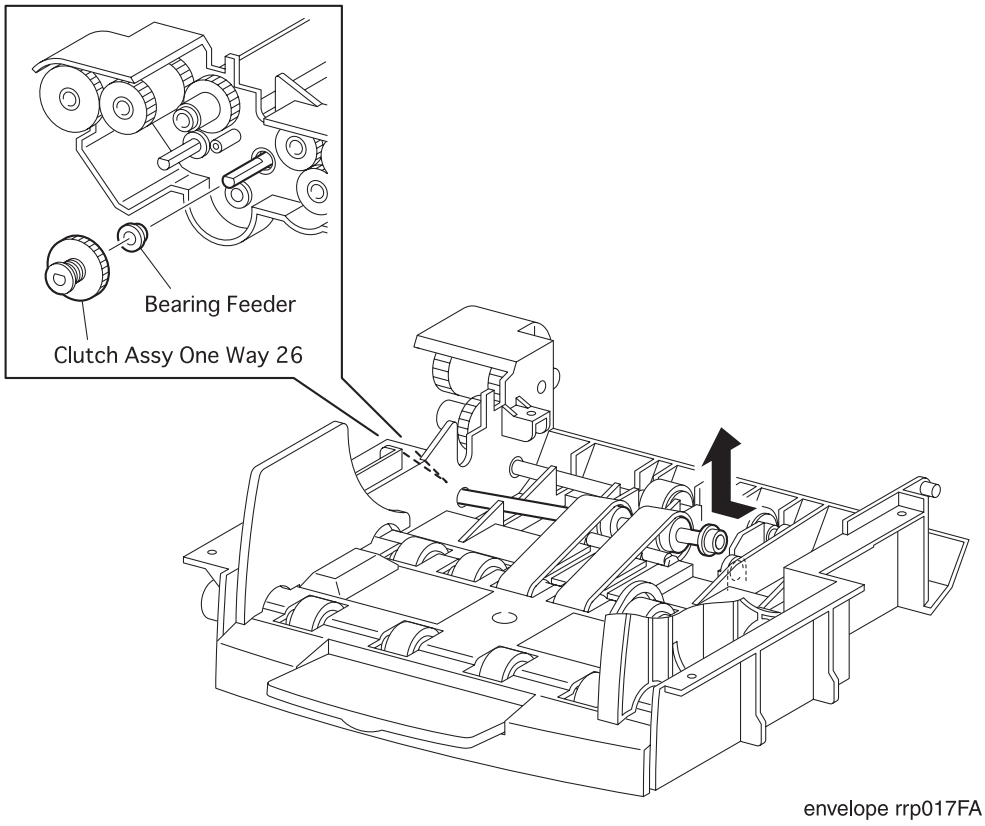


Figure 17. Roll Assy Bottom Removal

## RRP 12.2.4 Roll Assy Bottom (PL12.2.17) continued

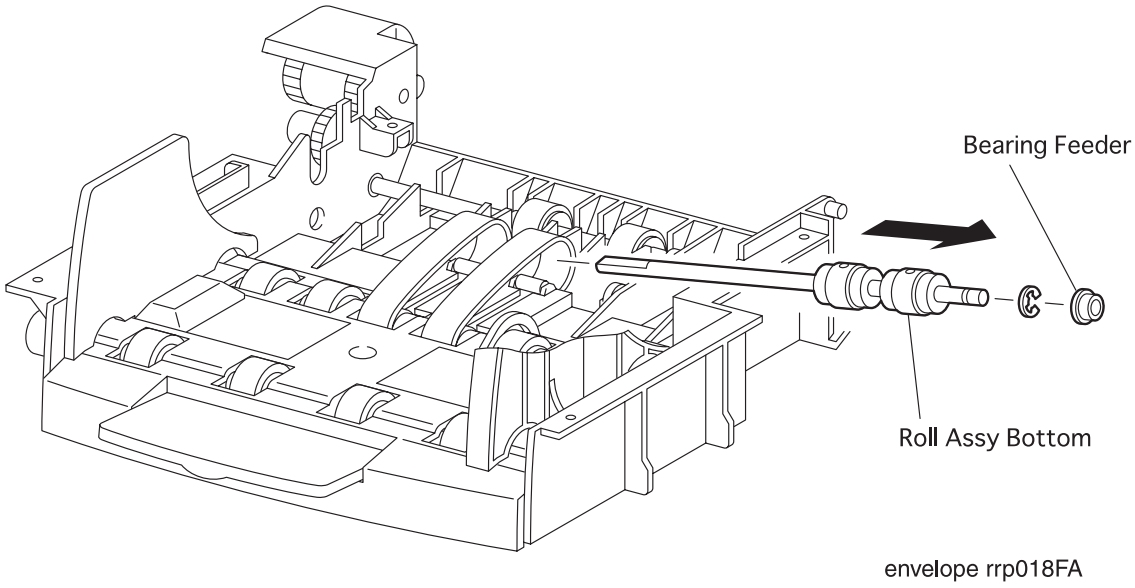


Figure 18. Roll Assy Bottom Removal

# RRP 12.2.4 Roll Assy Bottom (PL12.2.17) continued

### Removal

1. Remove the Envelope Feeder Assy (RRP 12.1.1).
2. Remove the Cover Bottom (RRP 12.1.5).
3. Remove the Chute Top (RRP 12.1.2).
4. Remove the PWBA ENV (RRP 12.2.14).
5. Remove the Cover Gear (RRP 12.2.1).
6. Draw the Clutch Assy Truque 25 (PL12.2.6) securing on the shat of Roll Assy Trans.
7. Remove the Clutch ELEC 29 (RRP 12.2.2).
8. Draw the Clutch Assy One Way 26 (PL12.2.9) securing on the shat of Roll Assy Bottom.
9. Remove the Bearing Feeder (PL12.2.7) that secures the left shaft of Roll Assy Bottom to the left bearing of Envelope Feeder Assy (PL12.1.1).
10. Shifting the right shaft of Roll Assy Bottom together with bearing Feeder to the left, release it from the right bearing of Envelope feeder Assy.
11. Raising the right shaft of Roll Assy Bottom, draw the Roll Assy Bottom together with Bearing Feeder from the Envelope Feeder Assy.
12. Remove the bearing Feeder from the right shaft of Roll Assy Bottom.
13. Remove an E-ring from the right shaft of Roll Assy Bottom.

### Replacement

1. Mount the E-ring to the right shaft of Roll Assy Bottom.
2. Mount the Bearing Feeder (PL12.2.7) to the right shaft of Roll Assy Bottom.
3. Let the left shaft of Roll Assy Bottom through the belt Feed (PL12.2.19) of Envelope Feeder Assy (PL12.1.1) at two places.
4. Insert the left shaft of Roll Assy Bottom into the left bearing of Envelope Feeder Assy.
5. Insert the right shaft of Roll Assy Bottom together with Bearing Feeder into the right bearing of Envelope Feeder Assy to secure.
6. Insert the Bearing Feeder into the left bearing of Envelope Feeder Assy to secure the left shaft of Roll Assy feed 2.
7. Align the position of Belt Feed (PL12.2.19) at two places with the roller of Roll Assy Bottom.
8. Mount the Clutch Assy One Way 26 (PL12.2.9) on the shaft of Roll Assy Bottom.
9. Mount the Clutch ELEC 29 (RRP 12.2.2).
10. Mount the Clutch Assy Torque 25 (PL12.2.6) on the shaft of Roll Assy Trans (PL12.2.15).
11. Mount the Cover Gear (RRP 12.2.1).
12. Mount the PWBA ENV (RRP 12.2.14).
13. Mount the Chute Top (RRP 12.1.2).
14. Mount the Cover Bottom (RRP 12.1.5).
15. Mount the Envelope Feeder Assy (RRP 12.1.1).

## RRP 12.2.4 Roll Assy Bottom (PL12.2.17) continued

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## RRP 12.2.5 Roll Pinch ENVE (PL12.2.18)

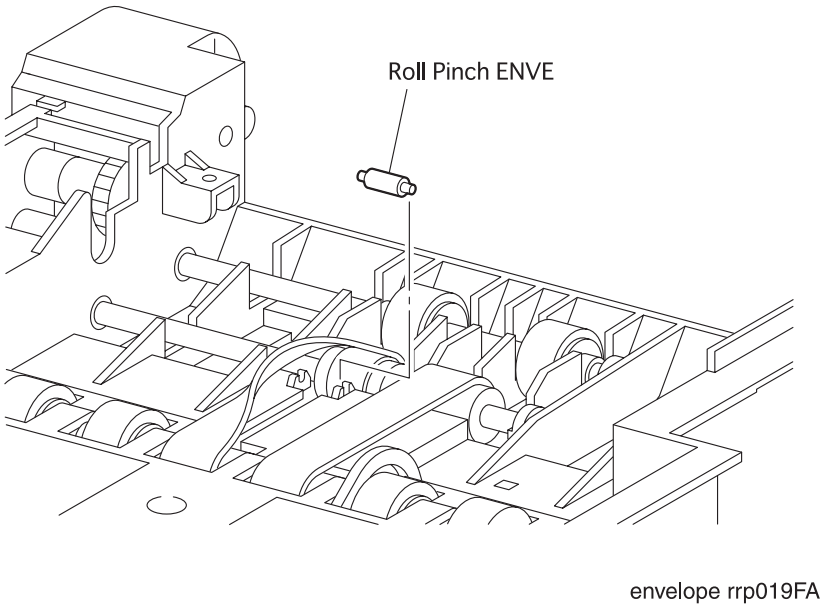



Figure 19. Roll Pinch ENVE Removal

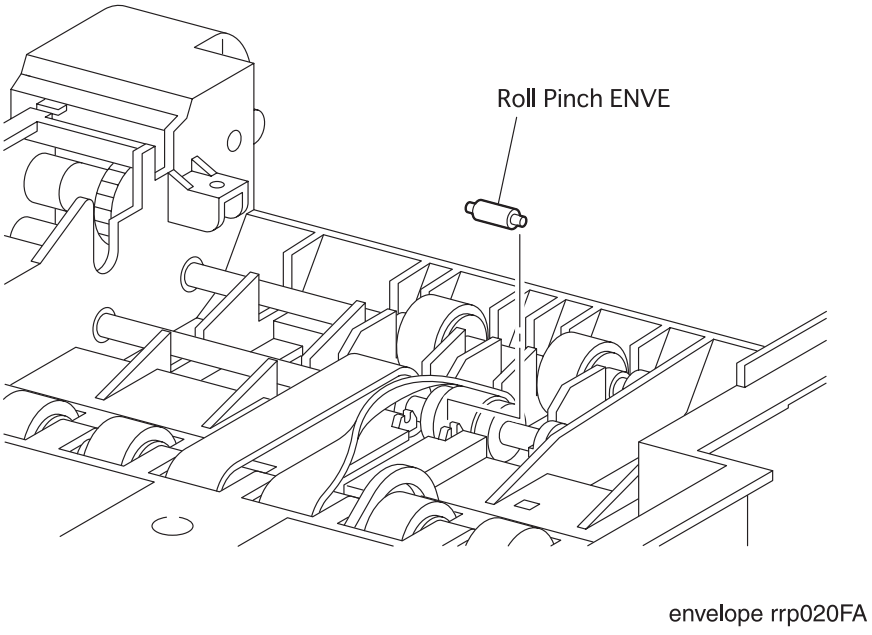



Figure 20. Roll Pinch ENVE Removal

# RRP 12.2.5 Roll Pinch ENVE (PL12.2.18) continued

### Removal

1. Remove the Envelope Feeder Assy (RRP 12.1.1).
2. Remove the Cover Bottom (RRP 12.1.5).
3. Remove the Chute Top (RRP 12.1.2).
4. Pulling upward the left Belt Feed (PL12.2.19) of Envelope Feeder Assy (PL12.1.1), disengage the shaft of left Roll Pinch ENVE, and remove the shaft from the bearing of Envelope Feeder Assy.
5. Pulling upward the right Belt Feed of Envelope Feeder Assy, disengage the shaft of right Roll Pinch ENVE, and remove the shaft from the bearing of Envelope Feeder Assy.

### Replacement

1. Pulling upward the right Belt Feed of Envelope Feeder Assy (PL 12.1.1), insert the shaft of Roll Pinch ENVE into the right bearing of Envelope Feeder Assy.
2. Pulling upward the left Belt Feed of Envelope Feeder Assy (PL 12.1.1), insert the shaft of Roll Pinch ENVE into the left bearing of Envelope Feeder Assy.
3. Mount the Chute Top (RRP 12.1.2).
4. Mount the Cover Bottom (RRP 12.1.5).
5. Mount the Envelope Feeder Assy (RRP 12.1.1).

## RRP 12.2.6 Belt Feed (PL12.2.19)

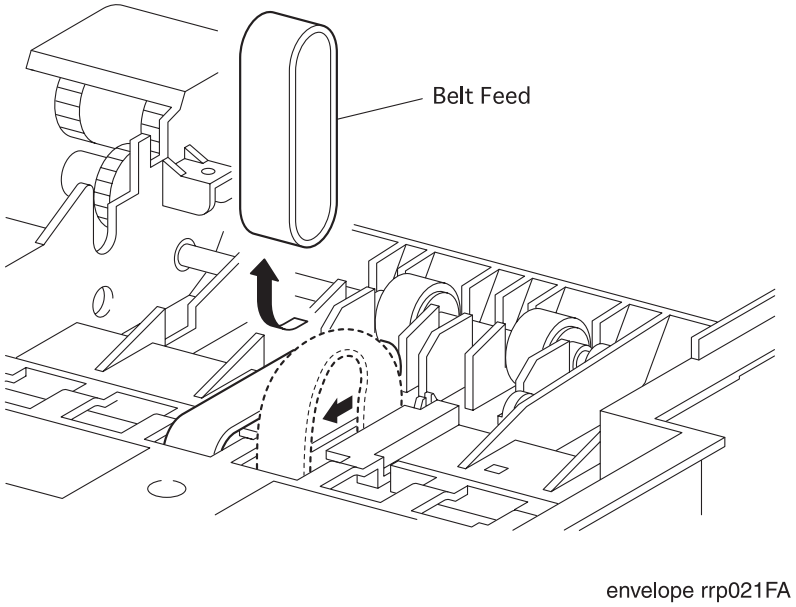



Figure 21. Belt Feed Removal

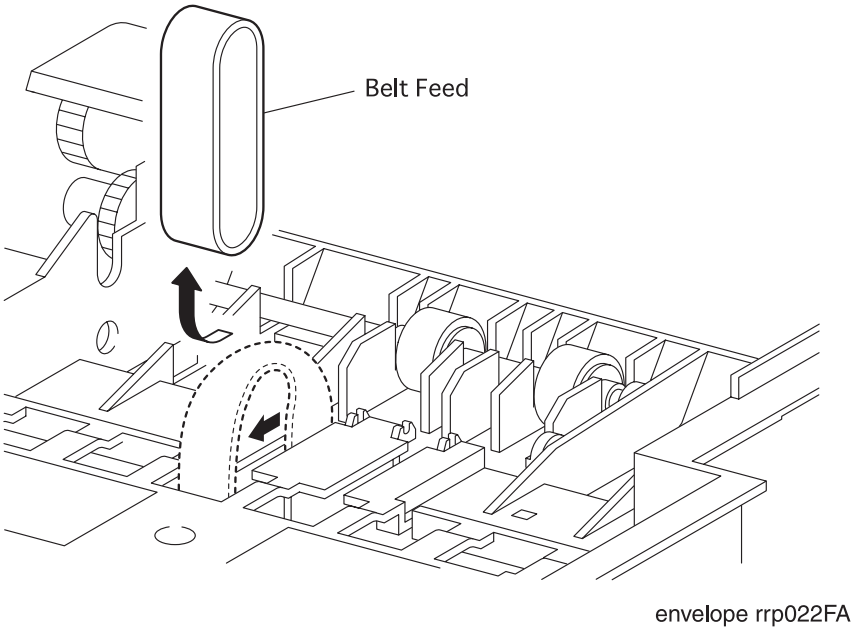



Figure 22. Belt Feed Removal

# RRP 12.2.6 Belt Feed (PL12.2.19) continued

### Removal

1. Remove the Envelope Feeder Assy (RRP 12.1.1).
2. Remove the Cover Bottom (RRP 12.1.5).
3. Remove the Chute Top (RRP 12.1.2).
4. Remove the PWBA ENV (RRP 12.2.14).
5. Remove the Cover Gear (RRP 12.2.1).
6. Remove the Clutch ELEC 29 (RRP 12.2.2).
7. Remove the Roll Assy Bottom (RRP 12.2.4).
8. Remove the Roll Assy Feed 1 (RRP 12.2.9).
9. Remove the Roll Pinch ENVE (RRP 12.2.5).
10. Letting the right Belt Feed through the right slit of Envelope Feeder Assy, remove the Belt Feed.
11. Letting the left Belt Feed through the left slit of Envelope Feeder Assy, remove the Belt Feed.

### Replacement

1. Letting the Belt Feed through the left slit of Envelope Feeder Assy (PL12.1.1), mount the Belt Feed.
2. Letting the Belt Feed through the right slit of Envelope Feeder Assy, mount the Belt Feed.
3. Mount the Roll Pinch ENVE (RRP 12.2.5).
4. Mount the Roll Assy Feed 1 (RRP 12.2.9).
5. Mount the Roll Assy Bottom (RRP 12.2.4).
6. Mount the Clutch ELEC 29 (RRP 12.2.2).
7. Mount the Cover Gear (RRP 12.2.1).
8. Mount the PWBA ENV (RRP 12.2.14).
9. Mount the Chute Top (RRP 12.1.2).
10. Mount the Cover Bottom (RRP 12.1.5).
11. Mount the Envelope Feeder Assy (RRP 12.1.1).

## RRP 12.2.7 Actuator N/P Envelope (PL12.2.21)

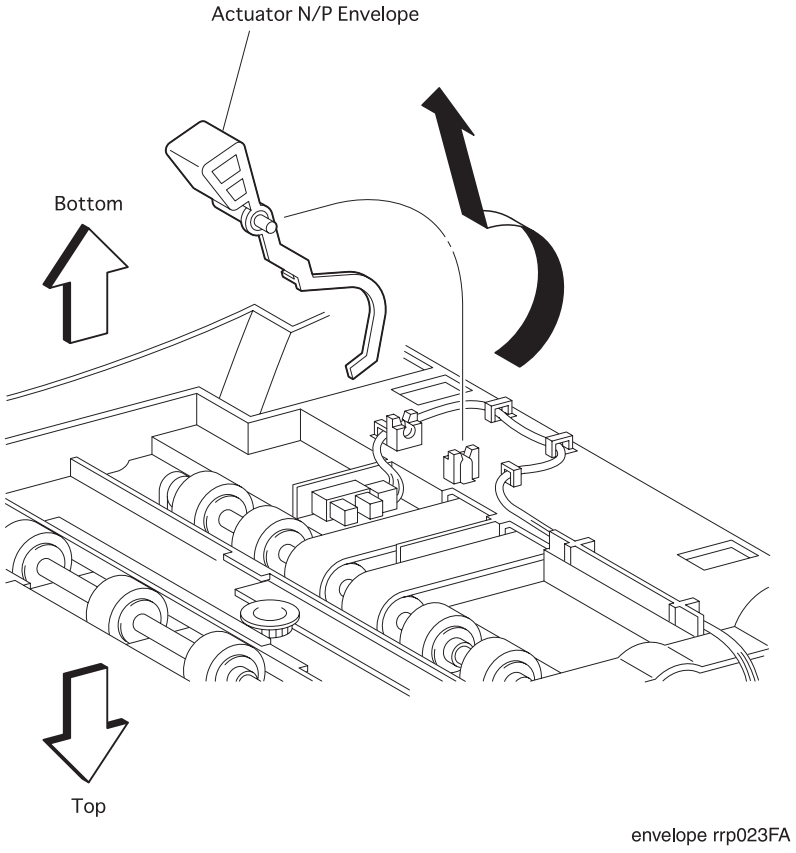



Figure 23. Actuator N/P Envelope Removal

# RRP 12.2.7 Actuator N/P Envelope (PL12.2.21) continued

### Removal

1. Remove the Envelope Feeder Assy (RRP 12.1.1)
2. Remove the Cover Bottom (RRP 12.1.5)
3. Release the shaft of Actuator N/P Envelope from the bearing of Envelope Feeder Assy (PL12.1.1), and remove the Actuator N/P Envelope.

### Replacement

1. Aligning the position exactly, mount the Actuator N/P Envelope on the Envelope Feeder Assy (PL12.1.1), and secure the shaft of Actuator N/P Envelope to the bearing of Envelope Feeder Assy.
2. Mount the Cover Bottom (RRP 12.1.5)
3. Mount the Envelope Feeder Assy (RRP 12.1.1)

## RRP 12.2.8 Sensor Photo:No Paper (PL12.2.22)

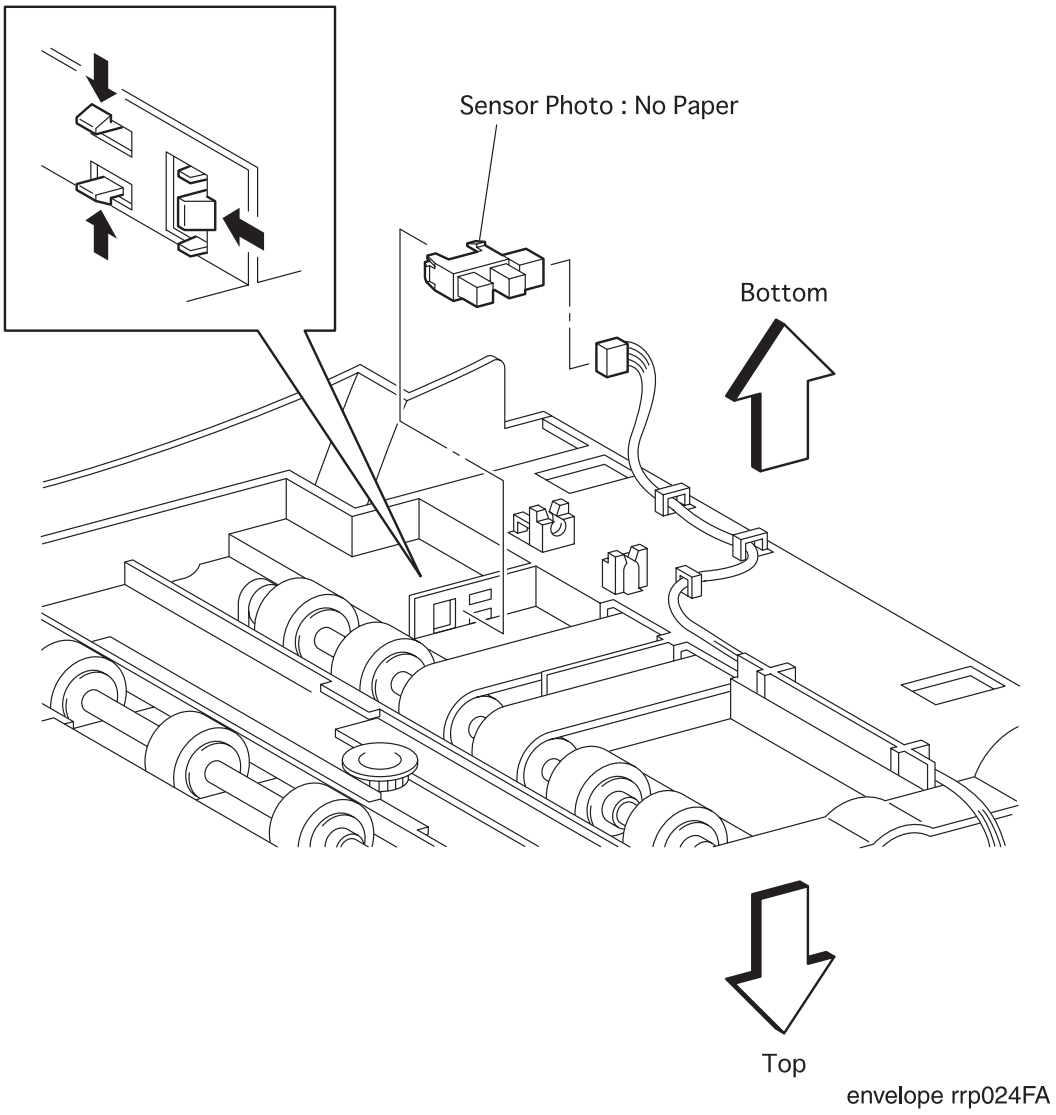



Figure 24. Sensor Photo:No Paper Removal

# RRP 12.2.8 Sensor Photo:No Paper (PL12.2.22) continued

### Removal

1. Remove the Envelope Feeder Assy (RRP 12.1.1).
2. Remove the Cover Bottom (RRP 12.1.5).
3. Remove the Actuator N/P Envelope (RRP 12.2.7)B.
4. Disengage two hooks that secure the Sensor Photo:No Paper to the Envelope Feeder Assy (PL12.1.1) and remove the Sensor Photo:No Paper.
5. Unplug the connector (P/J415) from the Sensor Photo:No Paper.

### Replacement

1. Plug the connector (P/J415) to the Sensor Photo:No Paper.
2. Aligning the position exactly, mount the Sensor Photo:No Paper on the Envelope Feeder Assy (PL12.1.1) and secure with two hooks.
3. Mount the Actuator N/P Envelope (RRP 12.2.7).
4. Mount the Cover Bottom (RRP 12.1.5).
5. Mount the Envelope Feeder Assy (RRP 12.1.1).

## RRP 12.2.9 Roll Assy Feed 1 (PL12.2.23)

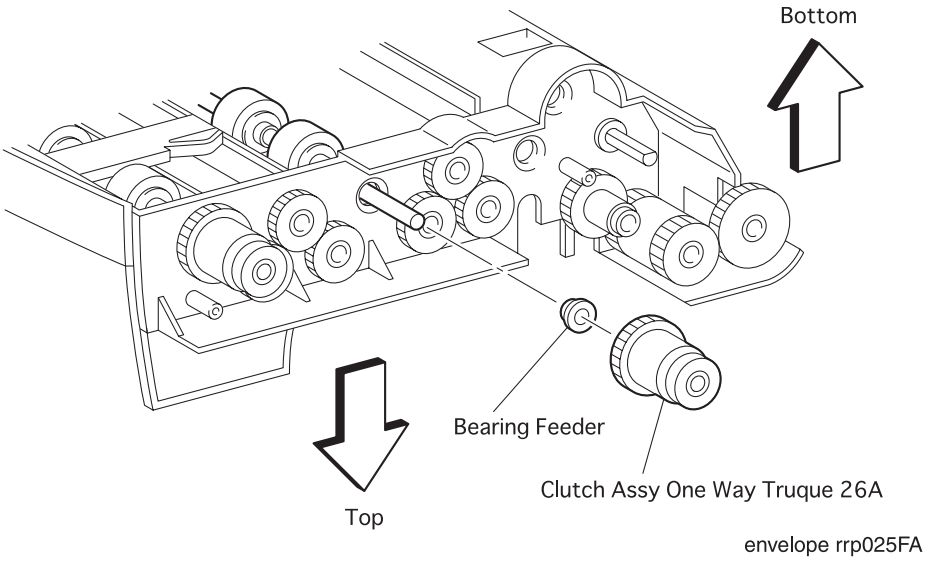



Figure 25. Roll Assy Feed1 Removal

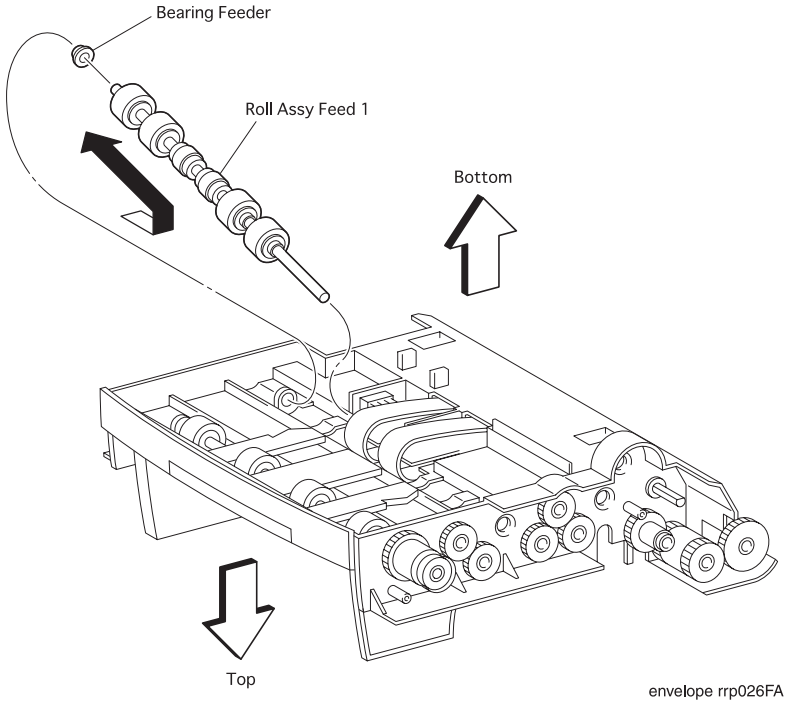



Figure 26. Roll Assy Feed1 Removal

# RRP 12.2.9 Roll Assy Feed 1 (PL12.2.23) continued

### Removal

1. Remove the Envelope Feeder Assy (RRP 12.1.1).
2. Remove the Cover Bottom (RRP 12.1.5).
3. Remove the Chute Top (RRP 12.1.2).
4. Remove the Actuator N/P Envelope (RRP 12.2.7).
5. Remove the PWBA ENV (RRP 12.2.14).
6. Remove the Cover Gear (RRP 12.2.1).
7. Remove the Clutch ELEC 29 (RRP 12.2.2).
8. Remove the Roll Assy Bottom (RRP 12.2.4).
9. Draw the Clutch Assy One Way Torque 26A (PL12.2.13) securing on the shat of Roll Assy Feed 1.
10. Remove the Bearing Feeder (PL12.2.7) that secures the left shaft of Roll Assy Feeder 1 to the left bearing of Envelope Feeder Assy (PL12.1.1).
11. Shifting the right shaft of Roll Assy Feeder 1 together with bearing Feeder to the left, release it from the right bearing of Envelope feeder Assy.
12. Raising the right shaft of Roll Assy Feeder 1, draw the Roll Assy Feeder 1 together with Bearing Feeder from the Envelope Feeder Assy.
13. Remove the Bearing Feeder from the right shaft of Roll Assy Feeder 1.

### Replacement

1. Mount the Bearing Feeder (PL12.2.7) to the right shaft of Roll Assy Feeder 1.
2. Let the left shaft of Roll Assy Feeder 1 through the Belt Feed (PL12.2.19) of Envelope Feeder Assy (PL12.1.1) at two places.
3. Insert the left shaft of Roll Assy Feeder 1 into the left bearing of Envelope Feeder Assy.
4. Insert the right shaft of Roll Assy Feeder 1 together with Bearing Feeder into the right bearing of Envelope Feeder Assy to secure.
5. Insert the Bearing Feeder into the left bearing of Envelope Feeder Assy to secure the left shaft of Roll Assy Feed 1.
6. Align the position of Belt Feed (PL12.2.19) at two places with the roll of Roll Assy Feeder 1.
7. Mount the Roll Assy Bottom (RRP 12.2.4).
8. Mount the Clutch ELEC 29 (RRP 12.2.2).
9. Mount the Cover Gear (RRP 12.2.1).
10. Mount the PWBA ENV (RRP 12.2.14).
11. Mount the Actuator N/P Envelope (RRP 12.2.7).
12. Mount the Chute Top (RRP 12.1.2).
13. Mount the Cover Bottom (RRP 12.1.5).
14. Mount the Envelope Feeder Assy (RRP 12.1.1).

## RRP 12.2.10 Roll Assy Feed 2 (PL12.2.25)

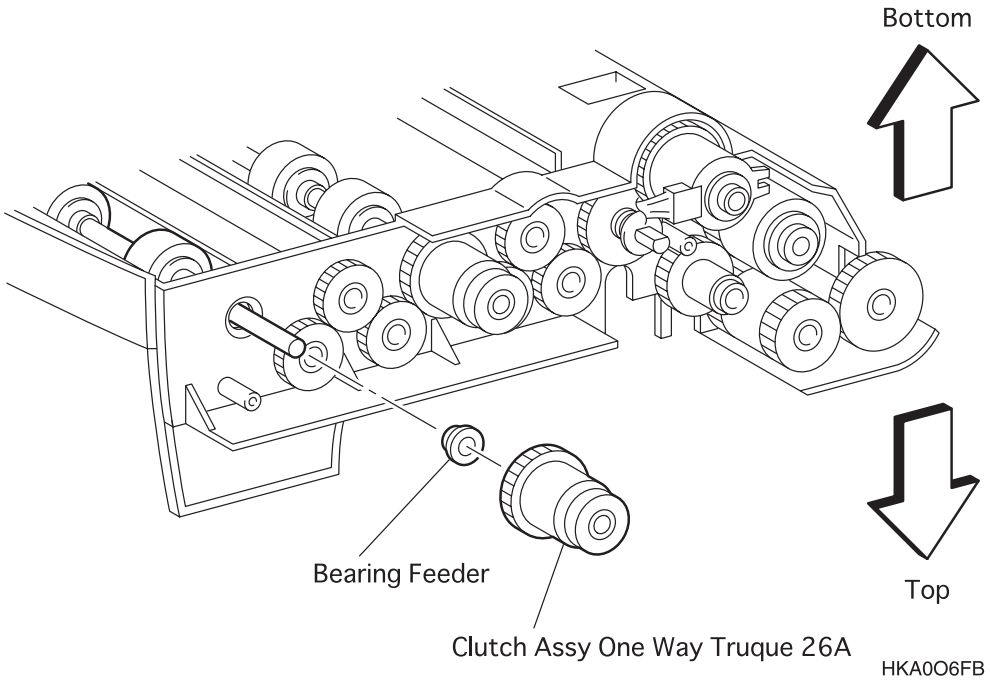



Figure 27. Roll Assy Feed2 Removal

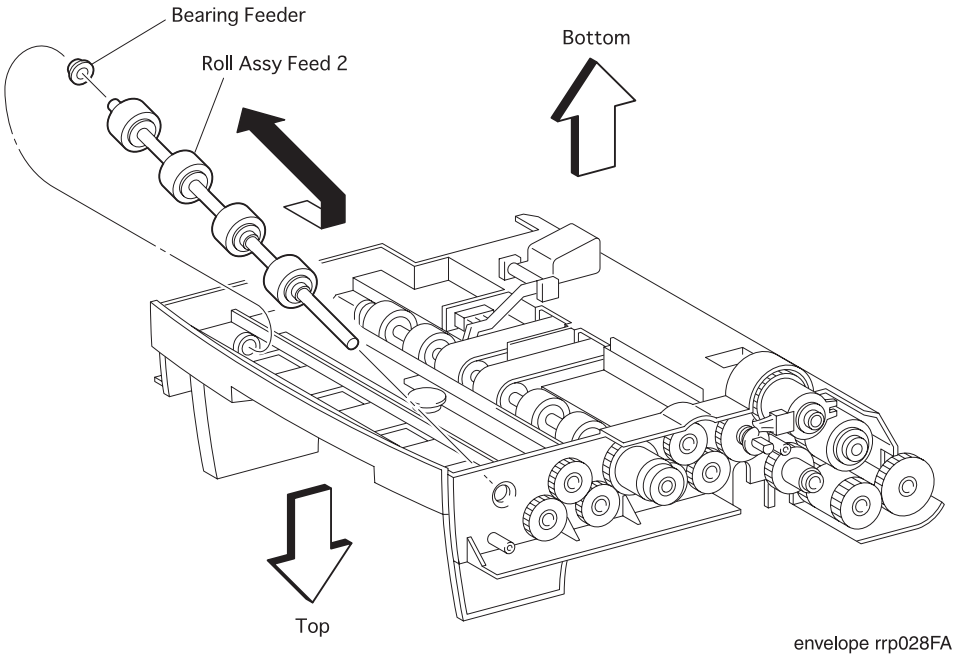



Figure 28. Roll Assy Feed2 Removal

# RRP 12.2.10 Roll Assy Feed 2 (PL12.2.25) continued

### Removal

1. Remove the Envelope Feeder (RRP 12.1.1).
2. Remove the Cover Bottom (RRP 12.1.5).
3. Remove the Chute Top (RRP 12.1.2).
4. Remove the PWBA ENV (RRP 12.2.14).
5. Remove the Cover Gear (RRP 12.2.1).
6. Draw the Clutch Assy One Way Torque 26A (PL12.2.13) securing on the shat of Roll Assy Feed 2.
7. Remove the Bearing Feeder (PL12.2.7) that secures the left shaft of Roll Assy Feeder 2 to the left bearing of Envelope Feeder Assy (PL12.1.1).
8. Shifting the right shaft of Roll Assy Feeder 2 together with bearing Feeder to the left, release it from the right bearing of Envelope Feeder Assy.
9. Raising the right shaft of Roll Assy Feeder 2, remove the Roll Assy Feeder 2 together with Bearing Feeder from the Envelope Feeder Assy.
10. Remove the Bearing Feeder from the right shaft of Roll Assy Feeder 2.

### Replacement

1. Mount the Bearing Feeder (PL12.2.7) to the right shaft of Roll Assy Feeder 2.
2. Insert the left shaft of Roll Assy Feeder 2 into the left bearing of Envelope Feeder Assy (PL12.1.1).
3. Insert the right shaft of Roll Assy Feeder 2 together with Bearing Feeder into the right bearing of Envelope Feeder Assy to secure.
4. Insert the Bearing Feeder into the left bearing of Envelope Feeder Assy to secure the left shaft of Roll Assy Feed 2.
5. Mount the Clutch Assy One Way Torque 26A (PL12.2.13) to the shaft of Roll Assy Feed 2.
6. Mount the Cover Gear (RRP 12.2.1).
7. Mount the PWBA ENV (RRP 12.2.14).
8. Mount the Chute Top (RRP 12.1.2).
9. Mount the Cover Bottom (RRP 12.1.5).
10. Mount the Envelope Feeder Assy (RRP 12.1.1).

## RRP 12.2.11 Roll Feeder:Roll Feed 1 (PL12.2.26)

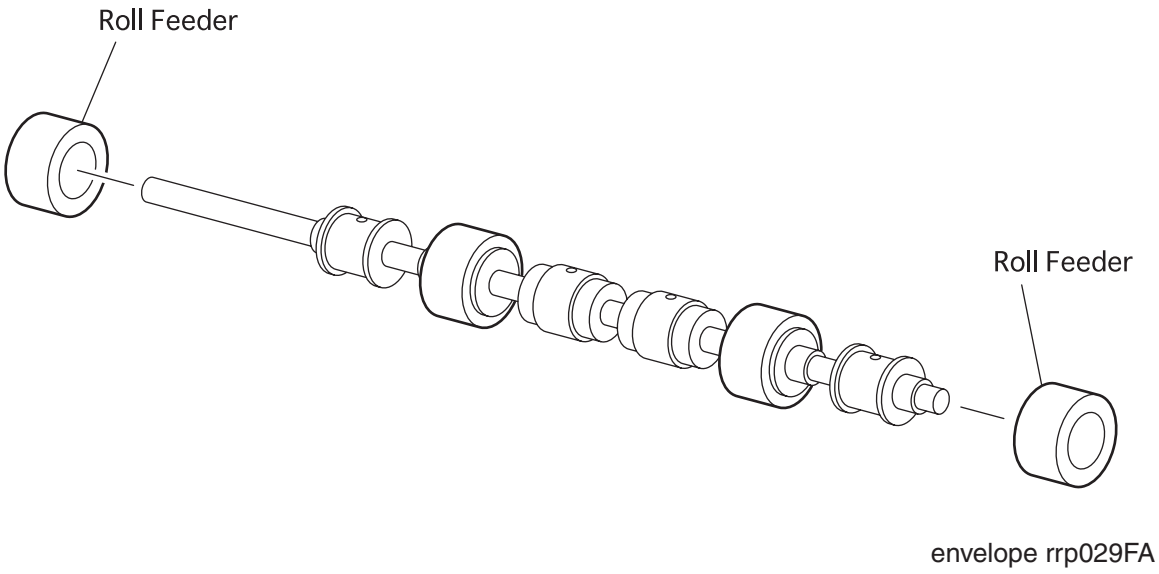



Figure 29. Roll Feeder:Roll Feed1 Removal

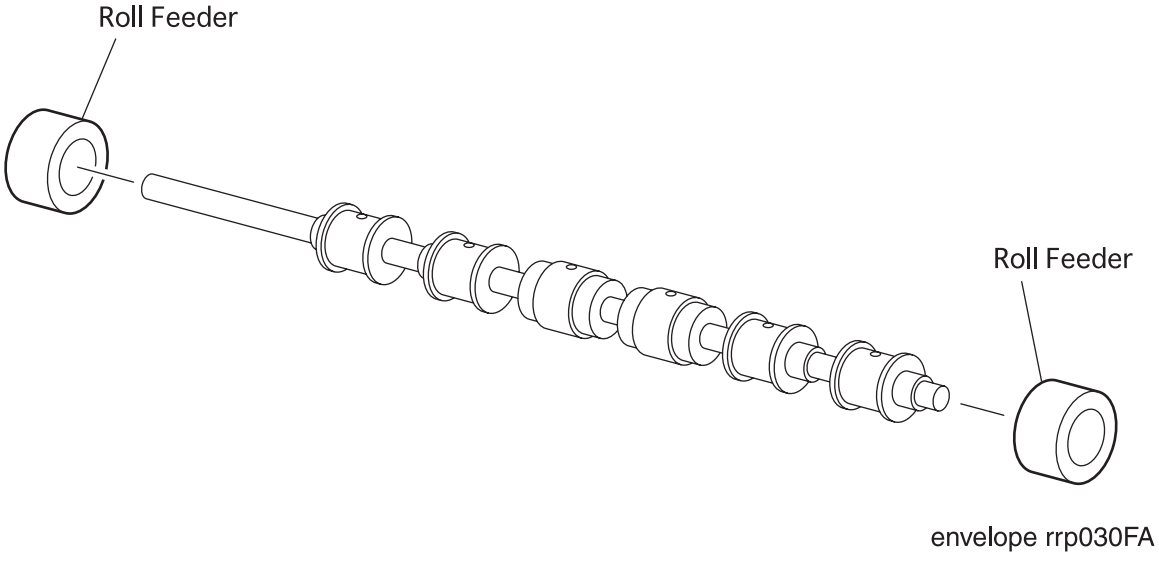



Figure 30. Roll Feeder:Roll Feed1 Removal

# RRP 12.2.11 Roll Feeder:Roll Feed 1 (PL12.2.26) continued

### Removal

1. Remove the Envelope Feeder Assy (RRP 12.1.1).
2. Remove the Cover Bottom (RRP 12.1.5).
3. Remove the Chute Top (RRP 12.1.2).
4. Remove the Actuator N/P Envelope (RRP 12.2.7).
5. Remove the PWBA ENV (RRP 12.2.14).
6. Remove the Cover Gear (RRP 12.2.1).
7. Remove the Clutch ELEC 29 (RRP 12.2.2).
8. Remove the Roll Assy Bottom (RRP 12.2.4).
9. Remove the Roll Assy Feed 1 (RRP 12.2.9).
10. Remove the left Roll Feeder from Roll Assy Feeder 1.
11. Remove the right Roll Feeder from Roll Assy Feeder 1.
12. From the Roll Assy Feed 1, remove the second Roll Feeder from the left side.
13. From the Roll Assy Feed 1, remove the second Roll Feeder from the right side.

### Removal

1. Mount the Roll Feeder on the second roller from the right side of Roll Assy Feed 1.
2. Mount the Roll Feeder on the second roller from the left side of Roll Assy Feed 1.
3. Mount the Roll Feeder on the right roller of Roll Assy Feed 1.
4. Mount the Roll Feeder on the left roller of Roll Assy Feed 1.
5. Mount the Roll Assy Feed 1 (RRP 12.2.9).
6. Mount the Roll Assy Bottom (RRP 12.2.4).
7. Mount the Clutch ELEC 29 (RRP 12.2.2).
8. Mount the Cover Gear (RRP 12.2.1).
9. Mount the PWBA ENV (RRP 12.2.14).
10. Mount the Actuator N/P Envelope (RRP 12.2.7).
11. Mount the Chute Top (RRP 12.1.2).
12. Mount the Cover Bottom (RRP 12.1.5).
13. Mount the Envelope Feeder Assy (RRP 12.1.1).

## RRP 12.2.12 Roll Feeder:Roll Feed 2 (PL12.2.26)

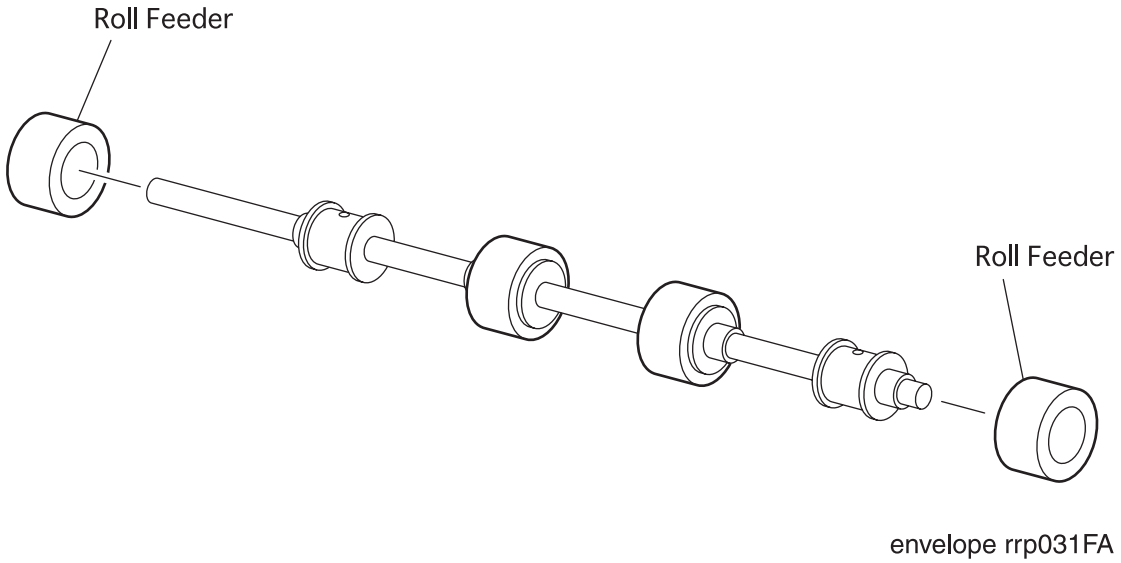



Figure 31. Roll Feeder:Roll Feed2 Removal

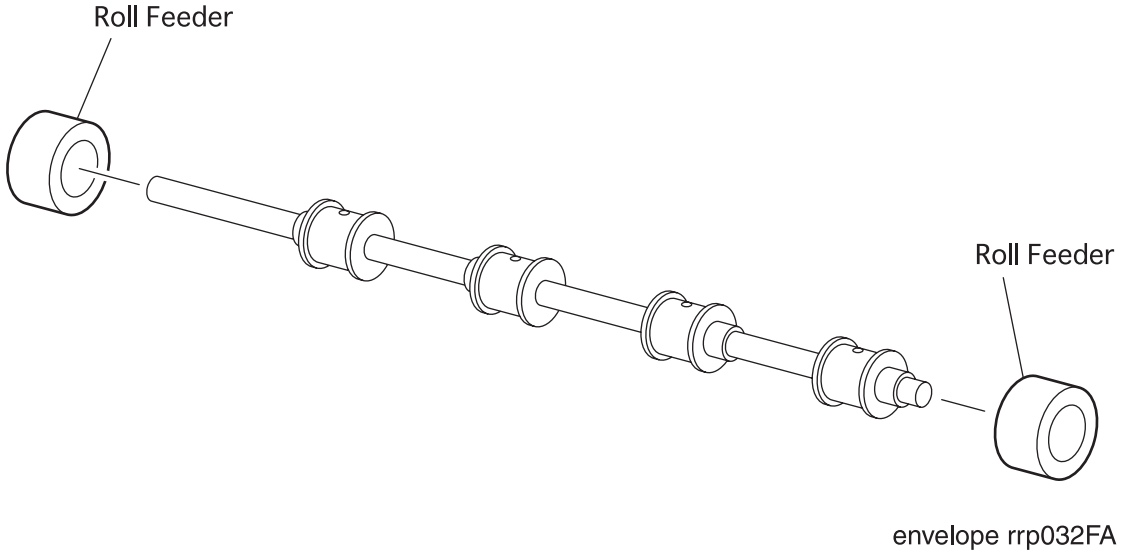



Figure 32. Roll Feeder:Roll Feed2 Removal

# RRP 12.2.12 Roll Feeder:Roll Feed 2 (PL12.2.26) continued

### Removal

1. Remove the Envelope Feeder Assy (RRP 12.1.1).
2. Remove the Cover Bottom (RRP 12.1.5).
3. Remove the Chute Top (RRP 12.1.2).
4. Remove the PWBA ENV (RRP 12.2.14).
5. Remove the Cover Gear (RRP 12.2.1).
6. Remove the Roll Assy Feed 2 (RRP 12.2.10).
7. Remove the left Roll Feeder from Roll Assy Feeder 2.
8. Remove the right Roll Feeder from Roll Assy Feeder 2.
9. From the Roll Assy Feed 2, remove the second Roll Feeder from the left side.
10. From the Roll Assy Feed 2, remove the second Roll Feeder from the right side.

### Replacement

1. Mount the Roll Feeder on the second roller from the right side of Roll Assy Feed 2.
2. Mount the Roll Feeder on the second roller from the left side of Roll Assy Feed 2.
3. Mount the Roll Feeder on the right roller of Roll Assy Feed 2.
4. Mount the Roll Feeder on the left roller of Roll Assy Feed 2.
5. Mount the Cover Gear (RRP 12.2.1).
6. Mount the PWBA ENV (RRP 12.2.14).
7. Mount the Chute Top (RRP 12.1.2).
8. Mount the Cover Bottom (RRP 12.1.5).
9. Mount the Envelope Feeder Assy (RRP 12.1.1).

## RRP 12.2.13 Connector ENV (PL12.2.30)

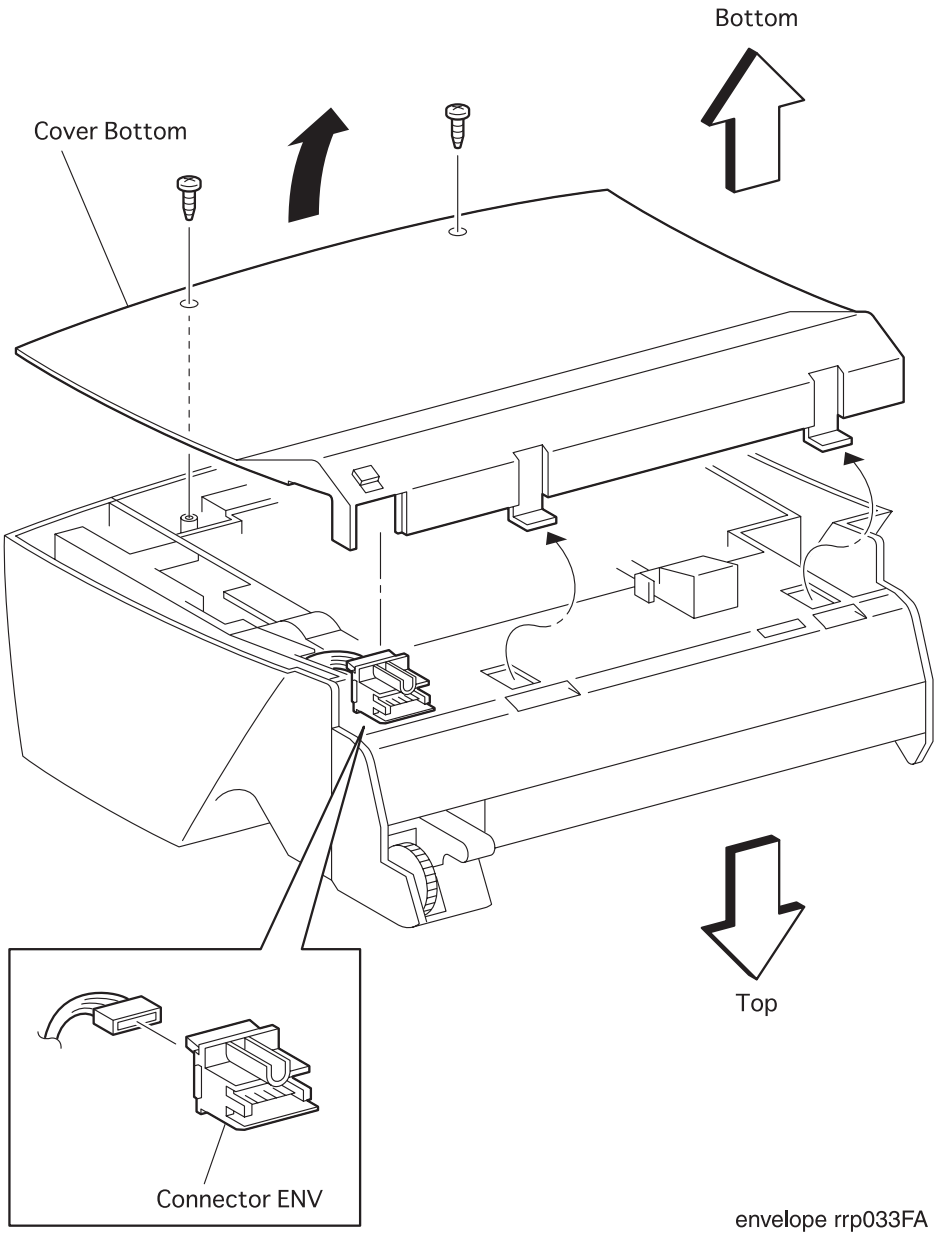



Figure 33. Connector ENV Removal

# RRP 12.2.13 Connector ENV (PL12.2.30) continued

### Removal

1. Remove the Envelope Feeder Assy (RRP 12.1.1).
2. Remove the Cover Bottom (RRP 12.1.5).
3. Unplug the Connector ENV from the connector (P/J418) of Harness Assy Main (PL12.2.31).

### Replacement

1. Plug the Connector ENV to the connector (P/J418) of Harness Assy Main (PL12.2.31)
2. Mount the Cover Bottom (RRP 12.1.5).
3. Mount the Envelope Feeder Assy (RRP 12.1.1).

# RRP 12.2.14 PWBA ENV (PL12.2.33)

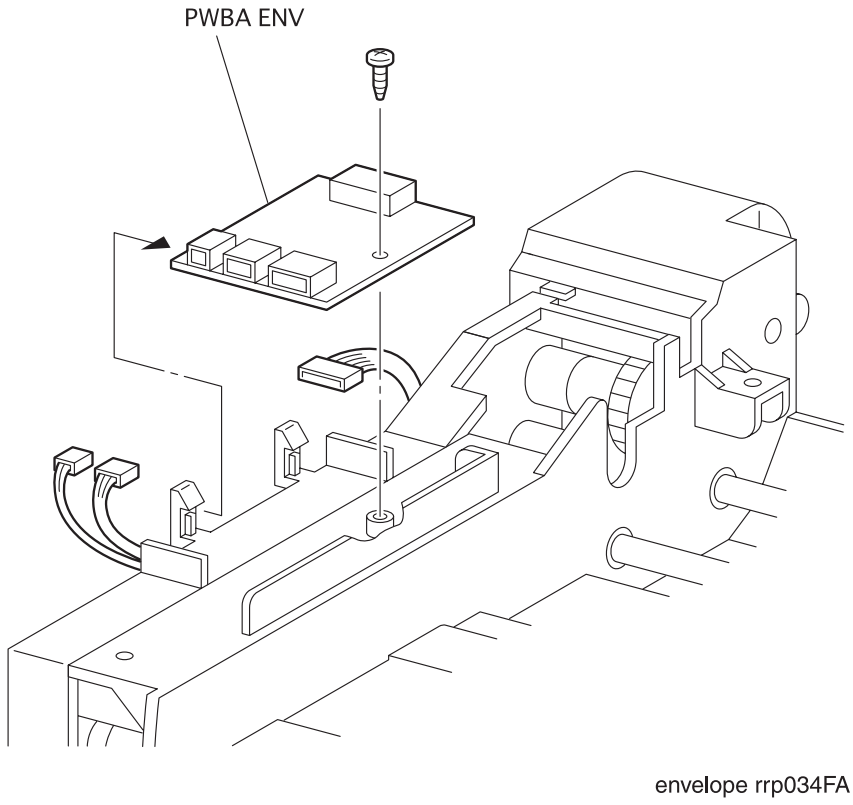



Figure 34. PWBA ENV Removal

# RRP 12.2.14 PWBA ENV (PL12.2.33) continued

### Removal

1. Remove the Envelope Feeder Assy (RRP 12.1.1).
2. Remove the Cover Bottom (RRP 12.1.5).
3. Remove the Chute Top (RRP 12.1.2).
4. Unplug the connector (P/J411) from the PWBA ENV.
5. Unplug the connector (P/J413) from the PWBA ENV.
6. Unplug the connector (P/J414) from the PWBA ENV.
7. Remove the one screw securing the PWBA ENV to the Envelope Feeder Assy (RRP12.1.1).
8. Remove the PWBA ENV from Envelope Feeder Assy.

### Replacement

1. Align the PWBA ENV with its mount position to the Envelope Feeder Assy (RRP12.1.1).
2. Secure the PWBA ENV to the Envelope Feeder Assy with one screw.
3. Plug the connector (P/J414) to the PWBA ENV.
4. Plug the connector (P/J413) to the PWBA ENV.
5. Plug the connector (P/J411) to the PWBA ENV.
6. Mount the Chute Top (RRP 12.1.2).
7. Mount the Cover Bottom (RRP 12.1.5).
8. Mount the Envelope Feeder Assy (RRP 12.1.1).

# Section 11 - Location of P/J Connectors

Use the P/J table beliw and the P/J map on the next page to locate a apecitic P/J connector within the Feeder and Cassette.

To find the location of a P/J:

1.Locate the P/J connector number in the first column of the table.

2.Locate the corresponding coordinates in the second column, such as I7 or J7.

3.Go to the map.

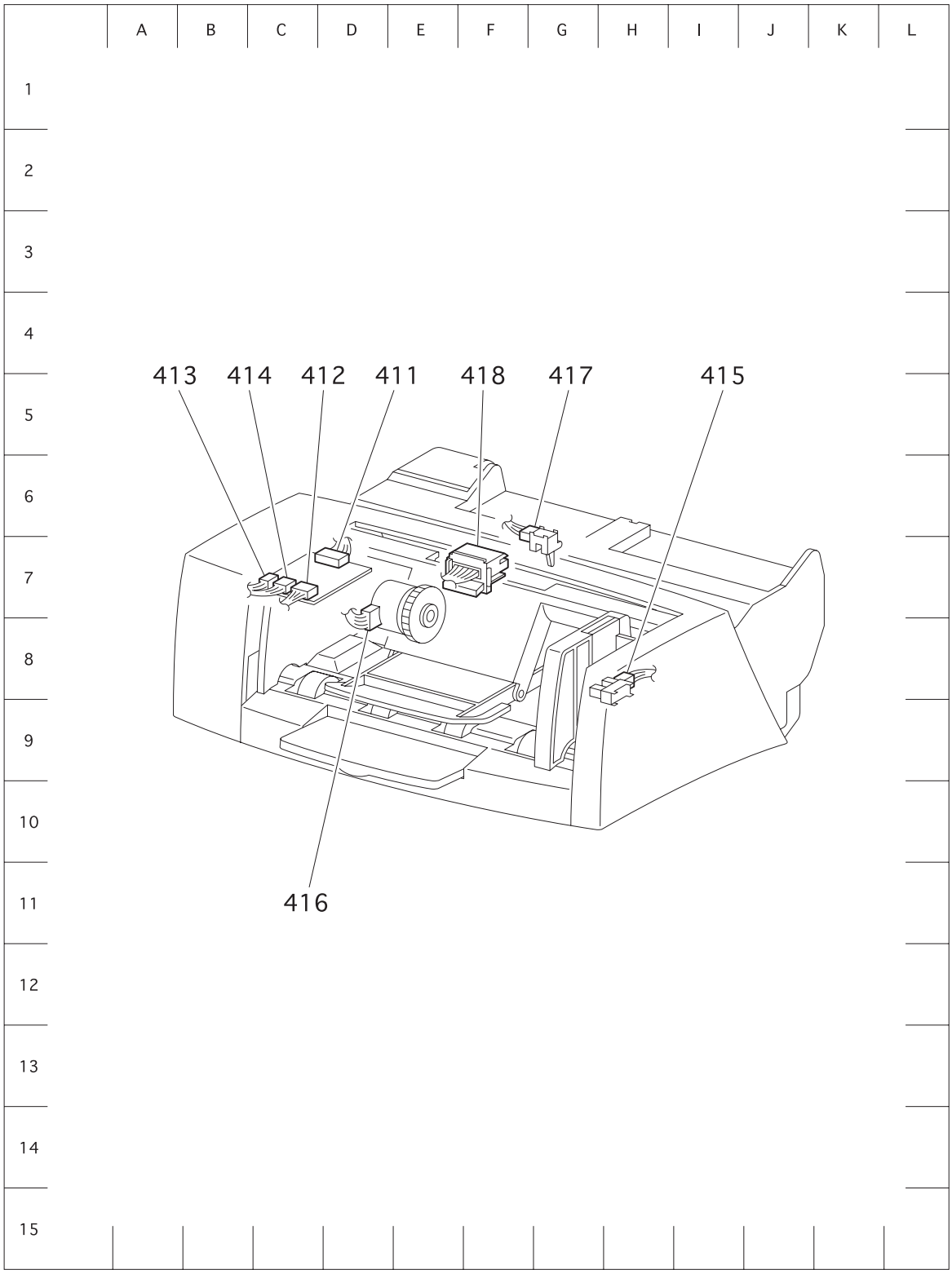
4.Cross-reference the letter and number of the P/J coordinates with the letters and numbers on the map.

5.The P/J connector is located within the area where the coordinates cross.

## P/J Table

| Connector | Coordinate | Description |
|---|---|---|
| P/J 411 | D6 | Connects the Harness Assy Main to the PWBA ENV. |
| P/J 412 | C7 | Connects the Harness Assy Sensor to the PWBA ENV. |
| P/J 413 | C7 | Connects the Harness Assy Clutch to the PWBA ENV. |
| P/J 414 | C7 | Connects the Harness Assy N/P to the PWBA ENV. |
| P/J 415 | H8 | Connects the Harness Assy N/P to the Sensor Photo : No Paper. |
| P/J 416 | D8 | Connects the Harness Assy Clutch to the Clutch ELEC 29. |
| P/J 417 | G6 | Connects the Harness Assy Sensor to the Sensor Assy Exit ENV. |
| P/J 418 | F7 | Connects the Harness Assy Main to the Connector ENV. |

P/J Map




envelope pj001FA

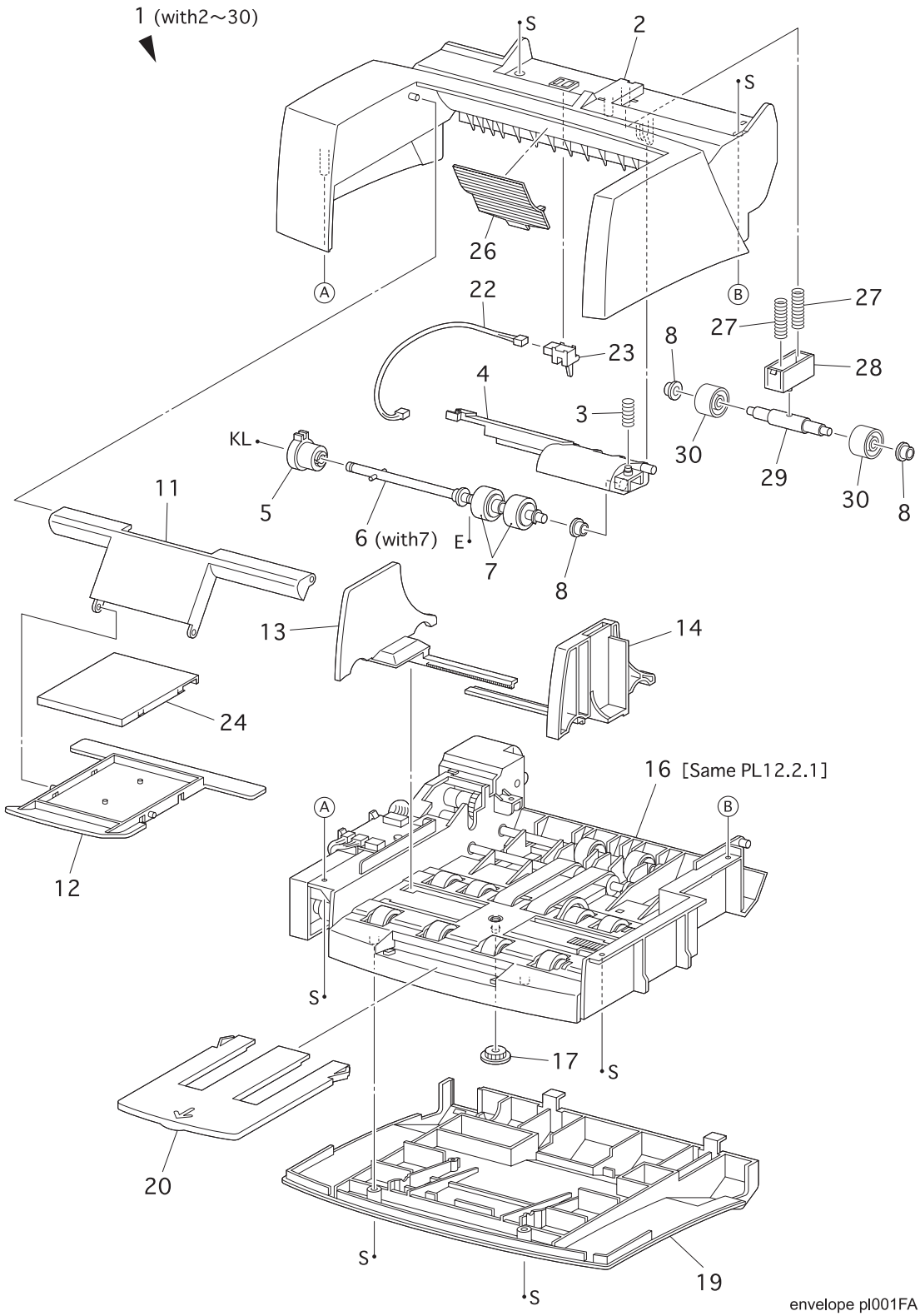
# Section 12 - Parts List Contents

PL12.1 Envelope Feeder I . . . . . 12-2
PL12.2 Envelope Feeder II . . . . . 12-4

**Using the Parts List**

1. The numbers shown in each illustration correspond to the parts list number for that illustration.
2. Throughout this manual, parts are identified by the prefix “PL”, followed by a number, a decimal point, and another number. For example, PL3.1.12 means the part is item 12 of parts list 3.1.
3. The capital letters “C”, “E”, and “S” shown in an illustration stand for C-ring, E-ring, and Screw, respectively.
4. A shaded triangle t in an illustration indicates the item is part of an assembly.
5. The notation “with X~Y” following an part name indicates an assembly that is made up of components X through Y. For example, “1 (with 2~4)” means part 1 consists of part 2, part 3, and part 4.
6. The notation "RS" means that the part is a requested spare. Part numbers for these parts will be provided as soon as they are available.
7. An asterisk * following a part name indicates the page contains a note about this part.
8. The notation “J1<>J2 and P2” is attached to a wire harness. It indicates that connector jack 1 is attached to one end of the wire harness and connector jack 2 is attached to the other end that is plugged into plug 2.
9. A notation "(part of item 1.1)" indicates that the part is included with item 1.2.1 (PL1.2, line item 1).

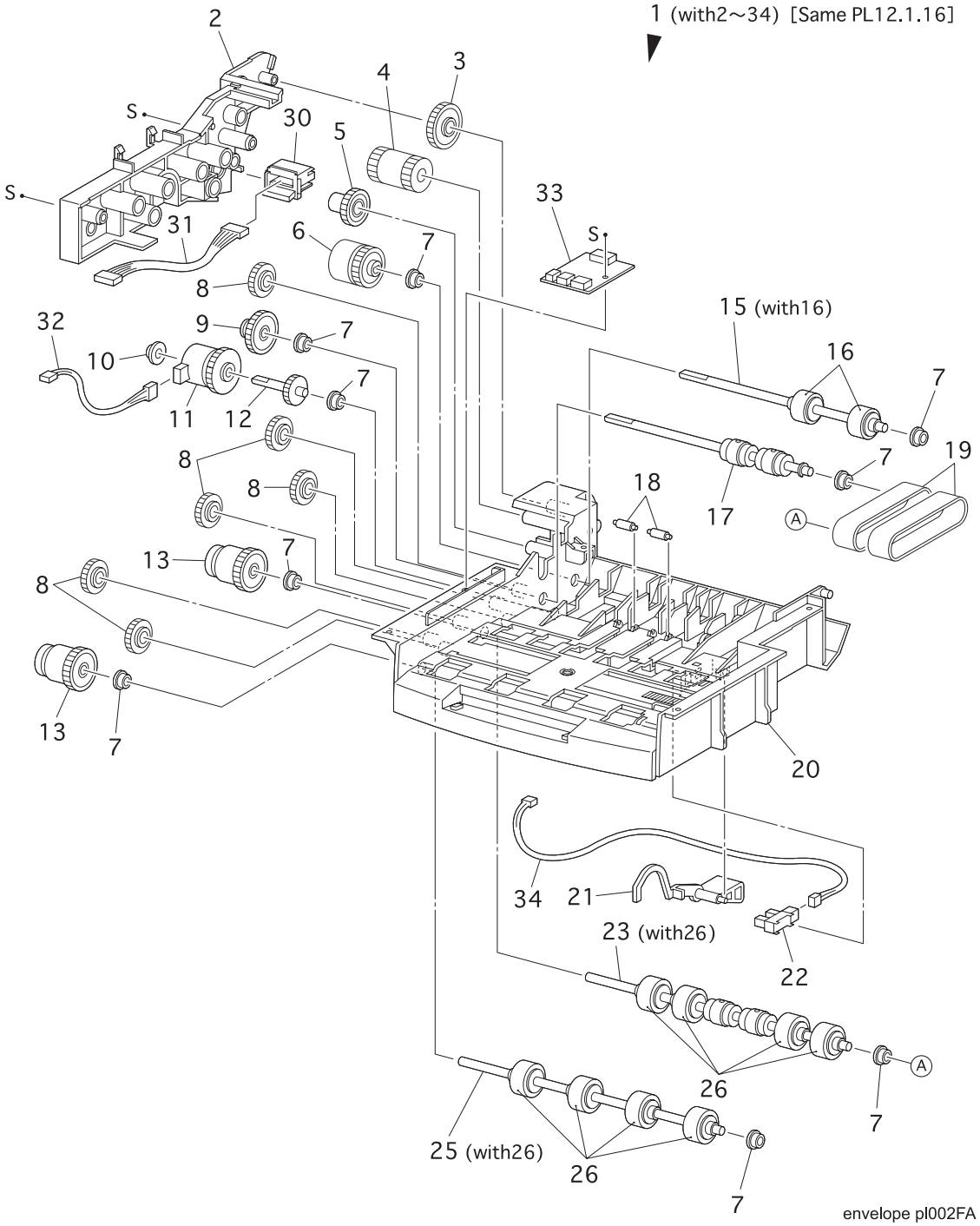
## PL12.1 Envelope Feeder I



## PL12.1 Envelope Feeder I

| ITEM | PART NUMBER | PART NAME |
|---|---|---|
| 1 | --- | ENVELOPE FEEDER ASSY (with 2~30) |
| 2 | 53352901 | CHUTE TOP |
| 3 | --- | SPRING RETARD |
| 4 | --- | HOLDER RETARD |
| 5 | --- | CLUTCH ASSY TORQUE 29 |
| 6 | --- | ROLL ASSY RETARD (with 7) |
| 7 | --- | ROLL RETARD |
| 8 | --- | BEARING FEEDER |
| 9 | -- | |
| 10 | -- | |
| 11 | 53081401 | ARM WEIGHT |
| 12 | --- | HOLDER WEIGHT |
| 13 | --- | GUIDE SIDE ENV L |
| 14 | --- | GUIDE SIDE ENV R |
| 15 | --- | |
| 16 | --- | ENVELOPE FEEDER SUB ASSY [Same PL12.2.1] |
| 17 | --- | GEAR PINION |
| 18 | --- | |
| 19 | --- | COVER BOTTOM |
| 20 | --- | TRAY EXTENSION |
| 21 | --- | |
| 22 | --- | HARNESS ASSY SENSOR (J412-J417) |
| 23 | 50415401 | SENSOR ASSY EXIT ENV |
| 24 | --- | COVER WEIGHT |
| 25 | -- | |
| 26 | --- | PLATE CHUTE |
| 27 | --- | SPRING PINCH |
| 28 | --- | CAP PINCH |
| 29 | --- | SHAFT PINCH |
| 30 | 50415901 | ROLL PINCH |
| 99 | 58262301 | KIT ROLL ASSY RETARD (with items 3~8) |

## PL12.2 Envelope Feeder II



## PL12.2 Envelope Feeder II

| ITEM | PART NUMBER | PART NAME |
|---|---|---|
| 1 | --- | ENVELOPE FEEDER SUB ASSY (with 2~34) [Same PL12.1.16] |
| 2 | --- | COVER GEAR |
| 3 | 51243901 | GEAR 29 |
| 4 | --- | GEAR DRIVE 21 |
| 5 | 51244001 | GEAR 23 |
| 6 | 51401501 | CLUTCH ASSY TORQUE 25 |
| 7 | --- | BEARING FEEDER |
| 8 | 51244101 | GEAR IDLER 21 |
| 9 | 51401601 | CLUTCH ASSY ONE WAY 26 |
| 10 | --- | BEARING CLUTCH ELEC |
| 11 | 51401701 | CLUTCH ELEC 29 |
| 12 | 51115101 | SHAFT CLUTCH ELEC 17 |
| 13 | 51401801 | CLUTCH ASSY ONE WAY TRUQUE 26A |
| 14 | --- | |
| 15 | --- | ROLL ASSY TRANS (with 16) |
| 16 | --- | ROLL TRANS |
| 17 | --- | ROLL ASSY BOTTOM |
| 18 | 50416001 | ROLL PINCH ENV |
| 19 | --- | BELT FEED |
| 20 | --- | CHASSIS MAIN |
| 21 | --- | ACTUATOR N/P ENVELOPE |
| 22 | 50415001 | SENSOR PHOTO :NO PAPER |
| 23 | 50416101 | ROLL ASSY FEED 1 (with 26) |
| 24 | --- | |
| 25 | 50416201 | ROLL ASSY FEED 2 (with 26) |
| 26 | --- | ROLL FEEDER |
| 27 | --- | |
| 28 | --- | |
| 29 | --- | |
| 30 | --- | CONNECTOR ENV |
| 31 | --- | HARNESS ASSY MAIN (J411-J418) |
| 32 | --- | HARNESS ASSY CLUTCH (J413-J416) |
| 33 | --- | PWBA ENV |
| 34 | --- | HARNESS ASSY N/P (J414-J415) |

# Section 13: Principles of Operation Contents

The Paper Path for the Envelope Feeder . . . . . ENV 13-2
Drive Flow. . . . . ENV 13-4
Function of Major Components . . . . . ENV 13-5

## The Paper Path for the Envelope Feeder

Paper that is fed to the optional Envelope Feeder follows the path shown in Figure 1.

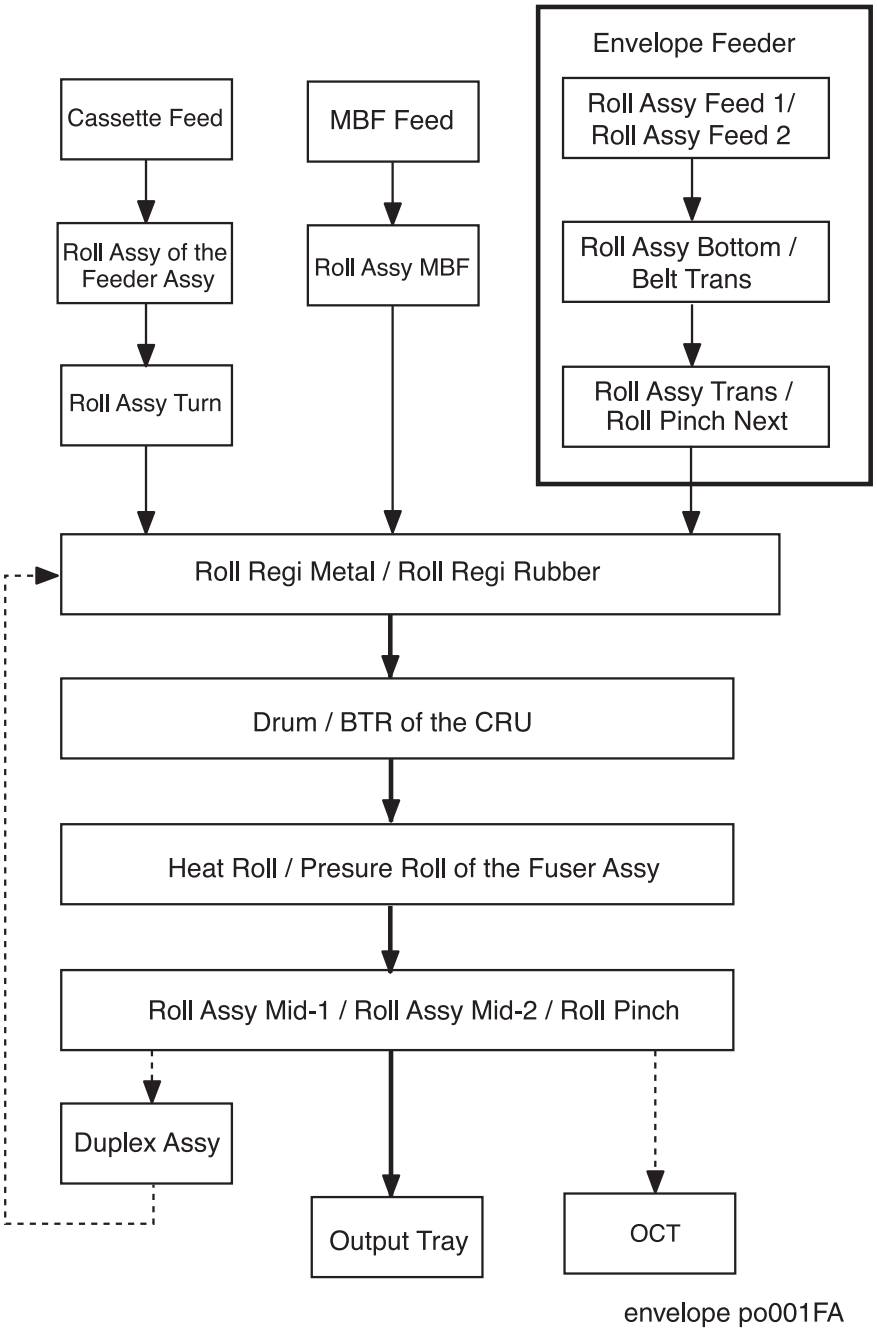



Figure 1. The Envelope Feeder Paper Path

Figure 2 shows a cut-off view of the printer, to better illustrate the components involved in the ENV paper path.

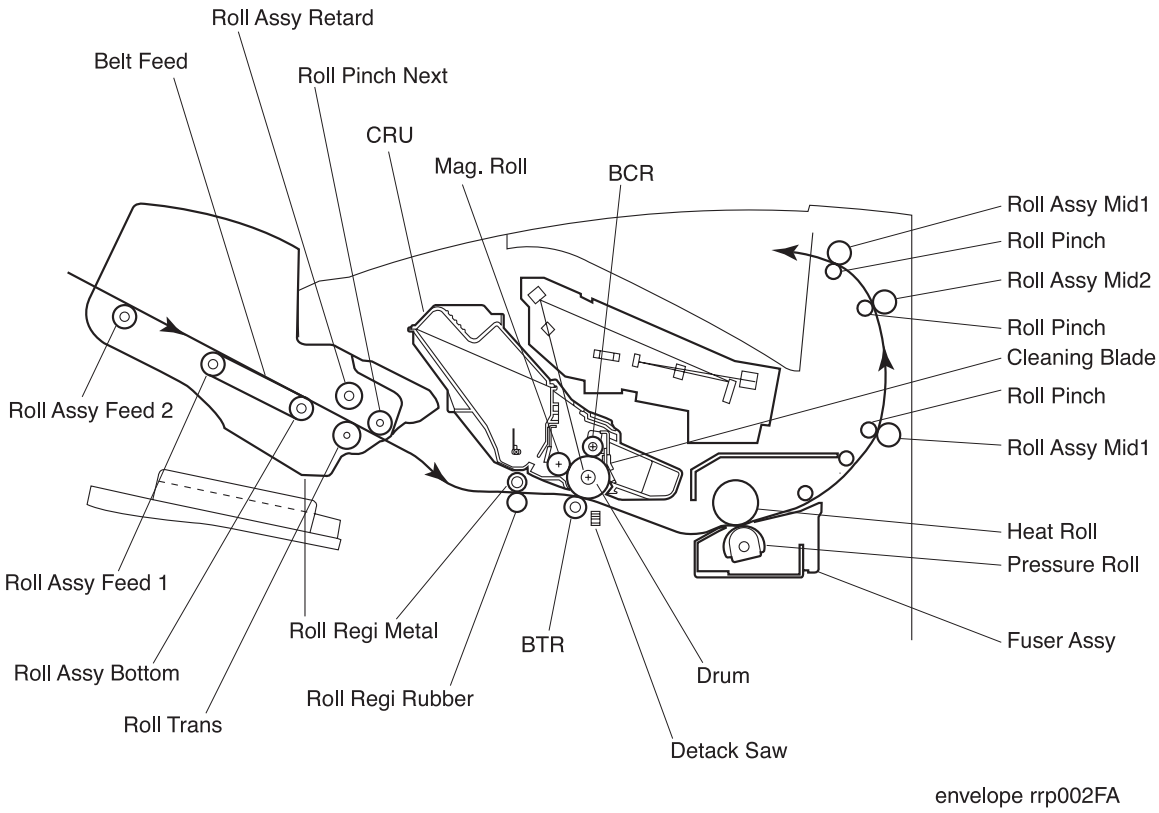



Figure 2. The ENV Paper Path

## Drive Flow

As shown in Figure 3, the mechanical power generated by the Motor Assy Main is transmitted to the gears of the ENV.

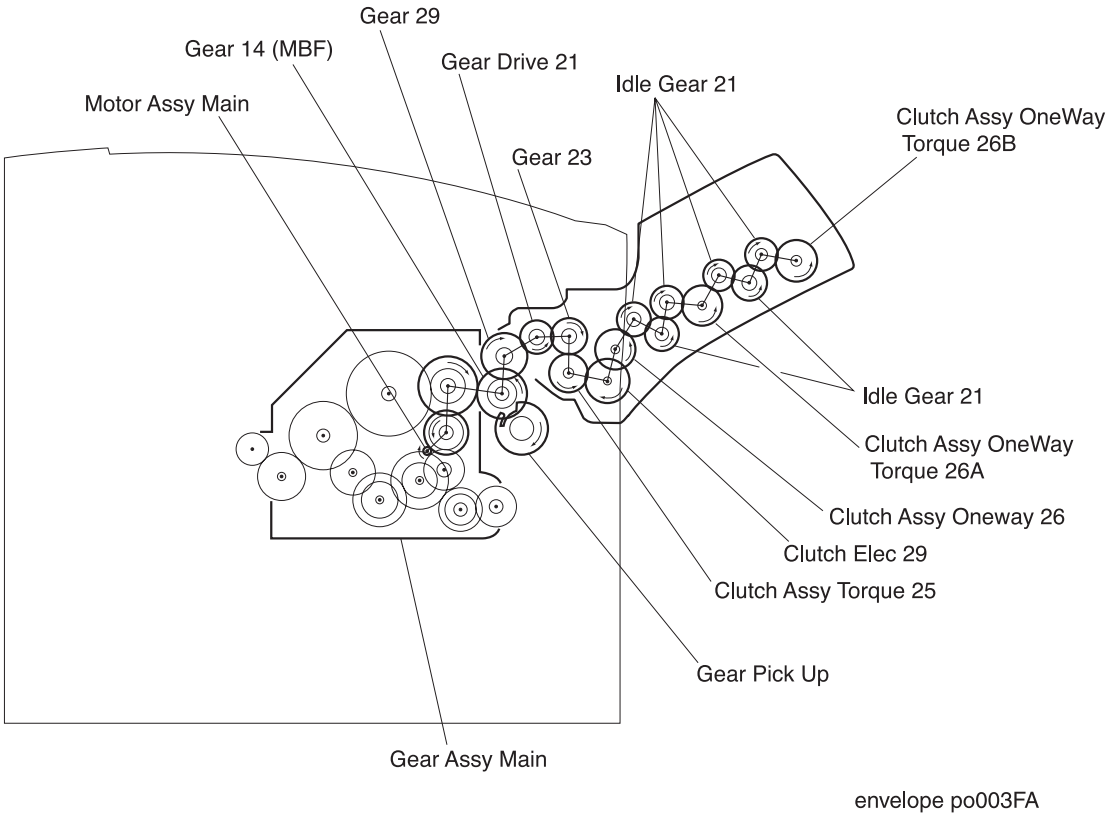



Figure 3. OCT Drive Flow

## Function of Major Components

Figures 4 shows the major components of the Envelope Feeder.

| | |
|---|---|
| Clutch Elec 29 | Controls the transmission of the drive power by the actuation of the clutch function. |
| Clutch Assy Oneway Torque 25, 26, 26A and 26B | Prevents the clockwise rotation. |
| Roll Assy Feed 1 | Transfers the envelope by its counterclockwise rotation. |
| Roll Assy Feed 2 and Roll Assy Bottom | Transfers the envelope by its counterclockwise rotation and transfers the drive power to the Belts Feed at the same time. |
| Roll Assy Trans | Transfers the envelope to the registration paper path. |
| Sensor Photo: No Paper | Located near the Roll Assy Feed 1 and detects the out of envelope. |
| Sensor Assy Exit ENV | Located at the exit of the Envelope Feeder and detects the exit of the envelope. |
| PWBA ENV | Controls the Envelope Feeder and has the roll of the signal interface between the PWBA HKB26 MCU. |

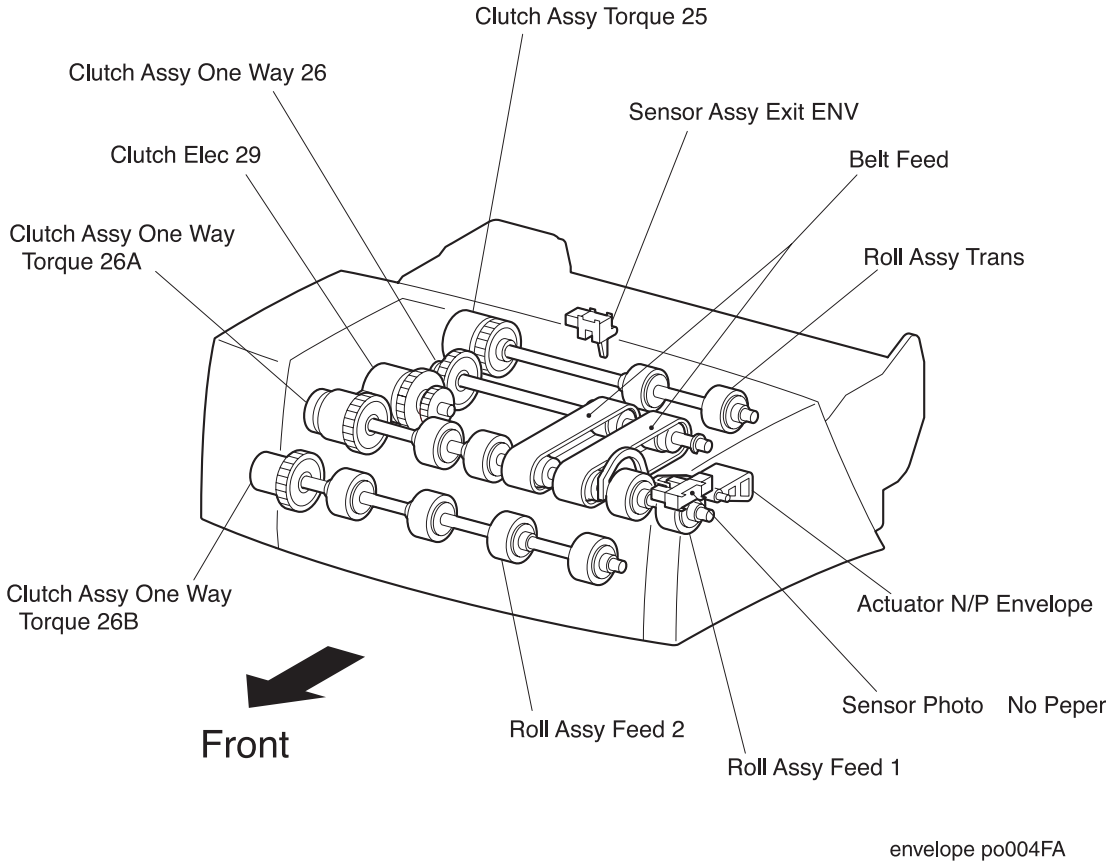



Figure 4. Major Components of the Envelope Feeder

# Section 14: Wiring Diagrams and Signal Information Contents

Wiring Diagram Notations . . . . . ENV 14-3
Master Wiring Diagram . . . . . ENV 14-4
DB1 PWBA HKB26 MCU <=> PWBA Conn <=> PWBA ENV . . . . . ENV 14-5
DB2 PWBA ENV <=> Sensor Assy Exit ENV, Sensor Photo: No Paper and Clutch Elec 29 . . . . . ENV 14-7

# Section 14: Wiring Diagrams and Signal Information

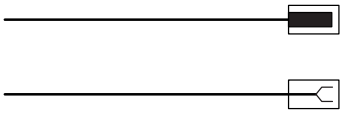
This section of the manual contains a Master Wiring Diagram for the HAKUBA Envelope Feeder. The Master Wiring Diagram shows the interconnections of the major subsystems within the printer. The remainder of this section divides the Master Wiring Diagram into individual diagram blocks (DB) to better illustrate the electrical relationships between components and assemblies within the Offset Catch Tray. Each wire in the diagram blocks is tagged with a signal name, and each wire is terminated at both ends with a pin number.

## Wiring Diagram Notations

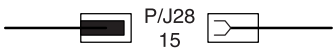
The wiring diagrams presented in this manual use the following circuit notations to describe components and signal paths within the printer.

A PLUG

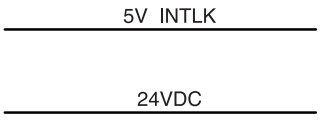
A JACK



CONNECTION OF PIN 15 OF CONNECTORS P28 AND J28.




THE SIGNAL NAME OF A WIRE




THE VOLTAGE MEASURED WITH THE NEGATIVE PROBE OF THE METER ON SG

envelope wire001FA

THE VOLTAGE VALUE OF A SIGNAL

/ = The voltage goes LOW when the signal is ON.

In this case, the HEAT signal is ON, so the normal voltage of 3.3VDC drops to 0VDC.

SG SIGNAL GROUND

FG FRAME GROUND

RTN RETURN

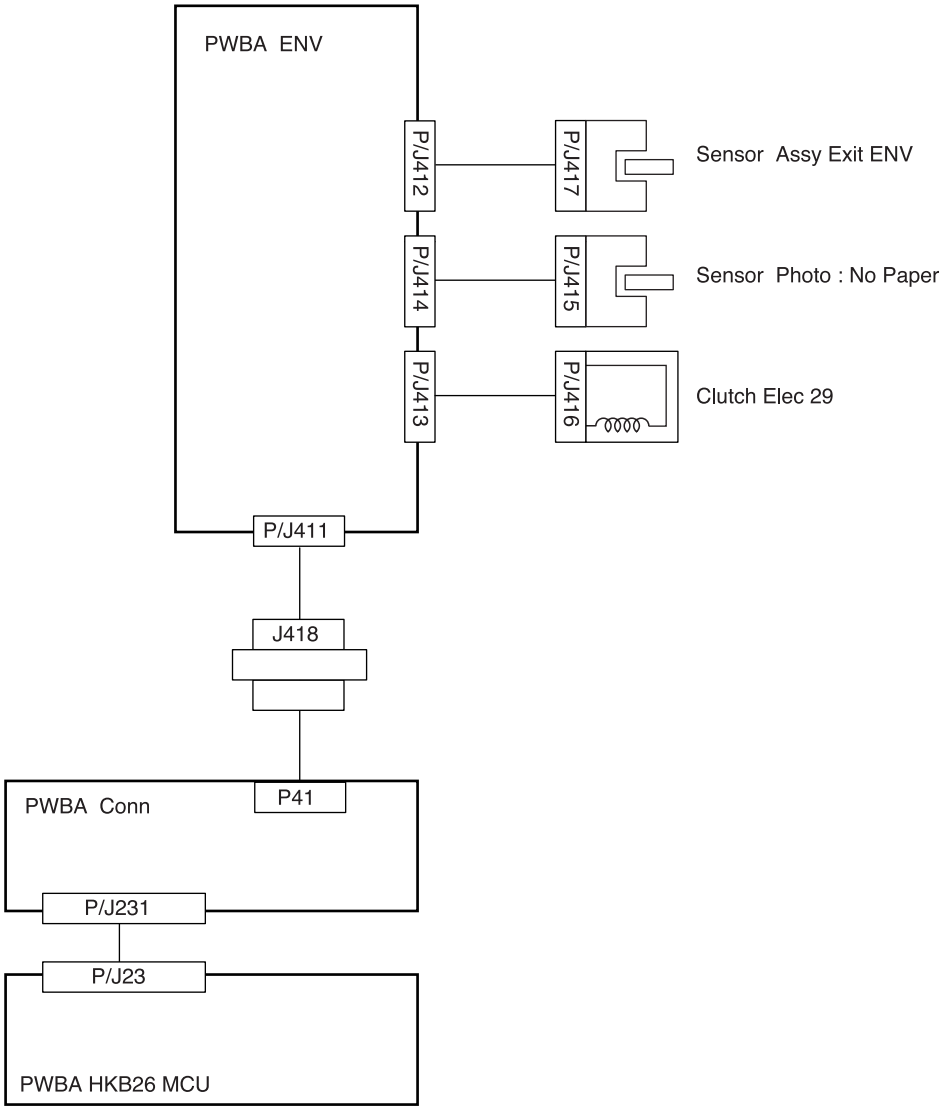
There is continuity between SG and RTN. Continuity between FG and SG depends on circuit specifications.

TTL TTL displayed in the HIGH level or LOW level columns of the signal tables indicate the signal is ECL_CMOS compatible.

HIGH is approx. 3.3 VDC

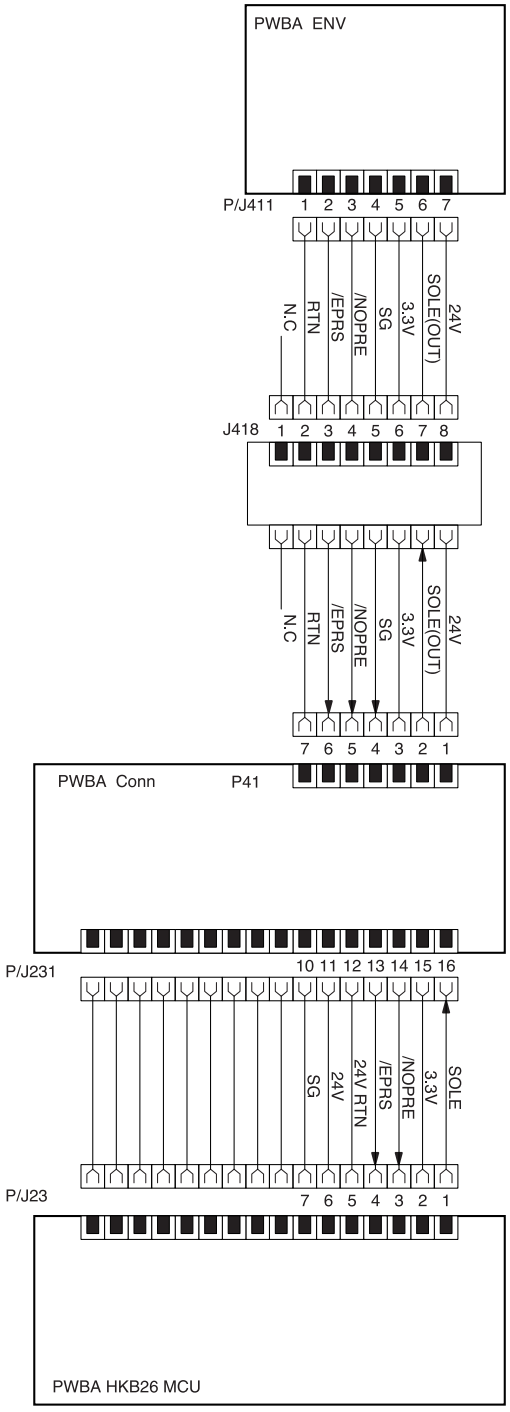
LOW is approx. 0 to 0.8 VDC

# Master Wiring Diagram




envelope wire002FA

**DB1 PWBA HKB26 MCU <=> PWBA Conn <=> PWBA ENV**




envelope wire003FA

### DB1 PWBA HKB26 MCU <=> PWBA Conn <=> PWBA ENV

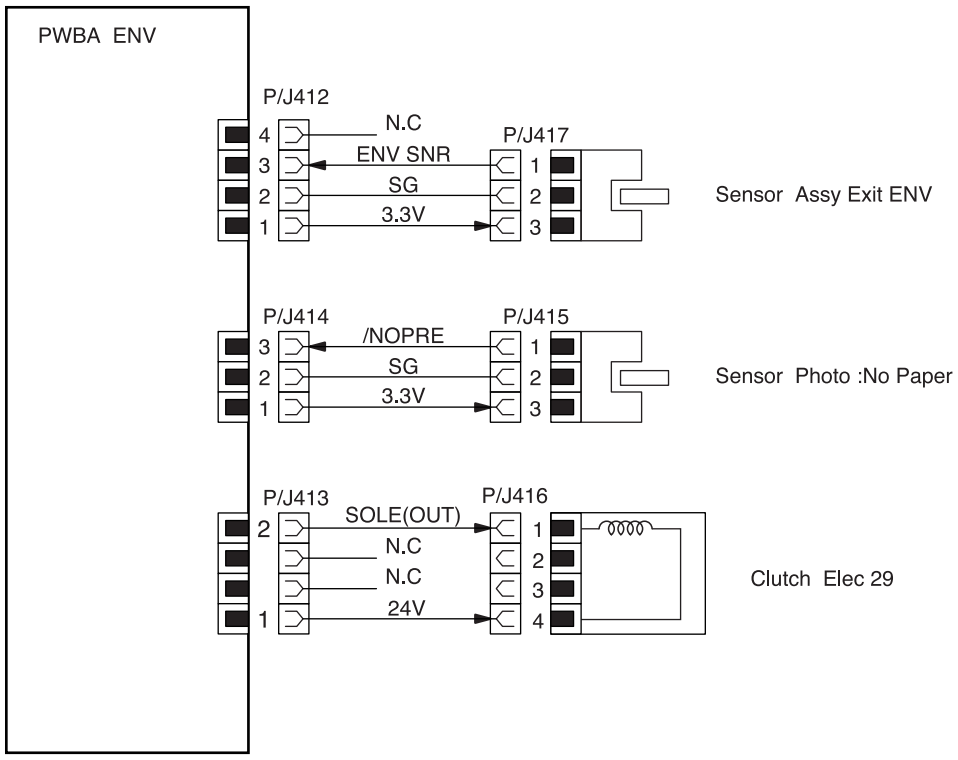
**The following table shows pin numbers, and voltage levels for the PWBA HKB26 MCU <=> PWBA Conn <=> PWBA ENV path:**

| P23 | P231 | P41 | P411 | Signal Name | Signal Direction M: MCU, C: PWBA Conn, E: PWBA ENV | Trigger | HIGH Level | LOW Level |
|---|---|---|---|---|---|---|---|---|
| 4 | 13 | 6 | 2 | /EPRS | E => C => M | Level | 3.3V | 0V |
| 3 | 14 | 5 | 3 | /NOPRE | E => C => M | Level | 3.3V | 0V |
| 1 | 16 | 2 | 6 | SOLE | E <= C <= M | Level | 3.3V | 0V |

**The following table shows the signal names for the PWBA HKB26 MCU <=> PWBA Conn <=> PWBA ENV path:**

| Signal Name | Description |
|---|---|
| /EPRS | Signal converted from the signal from the Sensor Assy Exit ENV. This signal is Low when the envelope has passed the Sensor Assy Exit ENV. |
| /NOPRE | Signal from the Sensor Photo: No Paper. This signal is Low when all envelopes are fed from the Envelope Feeder. |
| SOLE | Control signal for the Clutch Elec 29. This signal is High when the MCU makes the Clutch Elec 29 active. |

**DB2 PWBA ENV <=> Sensor Assy Exit ENV, Sensor Photo: No Paper and Clutch Elec 29**




envelope wire004FA

**DB2 PWBA ENV <=> Sensor Assy Exit ENV, Sensor Photo: No Paper and Clutch Elec 29**

**The following table shows the signal names for the PWBA ENV <=> Sensor Assy Exit ENV, Sensor Photo: No Paper and Clutch Elec 29 path:**

| Signal Name | Description |
|---|---|
| ENV SNR | Signal from the Sensor Assy Exit ENV. This signal turns High when the envelope is passing at the Sensor Assy Exit and goes Low when the envelope passes over the sensor. |
| /NOPRE | Signal from the Sensor Photo: No Paper. This signal turns Low when all the envelopes are fed from the Envelope Feeder. |
| SOL (OUT) | Control signal for the Clutch Elec 29. This signal is High when the MCU makes the Clutch Elec 29 active. |

**The following table shows pin numbers, and voltage levels for the PWBA ENV <=> Sensor Assy Exit ENV, Sensor Photo: No Paper and Clutch Elec 29 path:**

| Pin | Pin | Signal Name | Signal Direction<br>E: PWBA ENV,<br>EX: Sensor Assy Exit ENV,<br>NP: Sensor Photo No Paper,<br>C: Clutch Elec 29 | Trigger | HIGH Level | LOW Level |
|---|---|---|---|---|---|---|
| P412-3 | P417-1 | ENV SNR | EX => E | Level | 3.3V | 0V |
| P414-3 | P415-1 | /NOPRE | NP => E | Level | 3.3V | 0V |
| P413-2 | P416-1 | SOLE(OUT) | C <= E | Level | 24V | 0V |

# Section 15: Envelope Feeder Specifications Contents

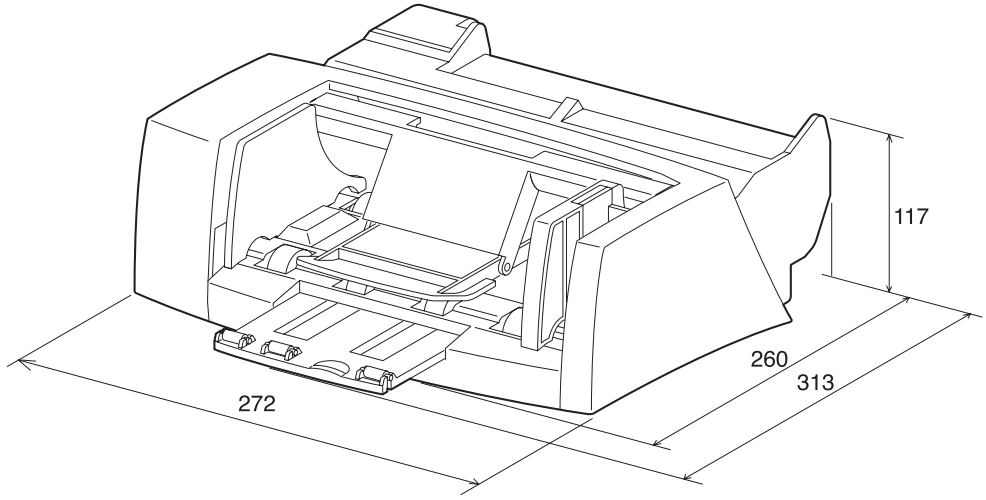
Dimensions and Weight . . . . . ENV 15-2
Power Supply . . . . . ENV 15-2

# Section 15: Envelope Feeder Specifications

## Dimension and Weight

| Width | Depth | Height | Weight |
|---|---|---|---|
| 272 mm | 260 (313 *1) mm | 117 mm | 1.5 kg |

**1 When the Tray Extension is extented.*




envelope spec001FA

## Power Supply

The +24VDC and +3.3VDC are supplied from the PWBA HKB PS through the PWBA HKB26 MCU and PWBA Conn.